

Product: 1999 Cub Cadet Series 3000 Tractors Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/1999-cub-cadet-series-3000-tractors-service-repair-workshop-manual/>

SERIES 3000 SERVICE MANUAL



Sample of manual. Download All 144 pages at:
<https://www.arepairmanual.com/downloads/1999-cub-cadet-series-3000-tractors-service-repair-workshop-manual/>

Product: 1999 Cub Cadet Series 3000 Tractors Service Repair Workshop Manual

Full Download: <https://www.arepairmanual.com/downloads/1999-cub-cadet-series-3000-tractors-service-repair-workshop-manual/>

[s-3000-tractors-service-repair-workshop-manual/](https://www.arepairmanual.com/downloads/1999-cub-cadet-series-3000-tractors-service-repair-workshop-manual/)

Series 3000 Technical Handbook

Table of Contents

	Section
Pre-Delivery Check List and Service Specifications 1999	1
Engineering Updates 1999.....	2
Fender Removal and Reinstallation	3
Hydraulic Step by Step Flow Charts	4
Power Steering Cylinder Removal and Replacement	5
Power Steering Pump Disassemble, Inspect and Reassemble	6
Center Lift Cylinder Removal and Replacement	7
Pump Adapter Removal and Replacement.....	8
BDU-21L-500 Pressure Test Procedure	9
Hydraulic Steering Pump Removal and Replacement	10
Hydraulic Valve Removal and Replacement.....	11
Engine Removal and Replacement.....	12
Transmission Removal and Installation	13
Transmission Inspection and Disassembly	14
Transmission Reassembly (Cast Iron Transmission Addendum).....	15
Neutral Control Adjustment	16
3000 Series Electrical	17
BDU-21L Transmission	18

Sample of manual. Download All 144 pages at:

<https://www.arepairmanual.com/downloads/1999-cub-cadet-series-3000-tractors-service-repair-workshop-manual/>

3000 Series Pre-Delivery Check List

CUSTOMER NAME _____ MODEL NUMBER _____

CUSTOMER ADDRESS _____ SERIAL NUMBER _____

CITY _____ STATE _____ ZIP _____ TECHNICIAN _____

ENGINE INFORMATION

Engine Make _____

Model No. _____

Serial No. _____

Spec No. _____

TRANSMISSION INFORMATION

Transmission make _____

Model No. _____

Serial No. _____

CUSTOMER SIGNATURE _____ DATE _____

Operator's Manual Complete?

- Owners Manual
- Attachment Guide
- Merchandising Catalog

Battery and connections

- Remove battery and fill to proper level
- Allow battery to stand for 30 minutes
- Charge at 4 AMPS max. to 1.265 specific gravity

Tire Pressure

- Front
 - Rear
- *Refer to owners manual for proper PSI

Check all lights and indicators

- Headlights, Tail and Backup lights
- Low oil light
- Hour meter

Lubrication

- Transmission oil level
 - Engine oil level
- *Check tractor owners manual for type and grade

Air cleaner and connections

- Remove air cleaner cover to verify air cleaner is installed
- Insure retaining bolt seal is installed
- Insure proper installation of breather hose
- Proper operation of throttle and choke cables

Steering

- Check for 1/8 to 1/4 inch toe in.
- Insure equal travel right and left
- Check steering wheel tilt

Hydrostatic / Gear drive and brakes

- Check brakes
- Check for neutral when brake pedal is depressed
- Check for neutral when forward and reverse pedals are released
- Check cruise control

Grease pivot points

- Front axle pivot bar
 - Each steering knuckle
 - Each front wheel
 - Steering housing
 - All grease points on mower deck
- *Refer to specific mower owners manual

Install attachments mower / snow blower etc.

- Check PTO
- Inspect linkage
- Deck level adjustment

Safety operations

- Check no cut in reverse
- Check engine shutdown with PTO engaged and seat empty
- Check engine shutdown with empty seat and parking brake not engaged

Check engine speeds / Controls

- Low idle - 1200 RPM
- High idle - 3600 RPM

Final inspection

- Overall appearance
- Clean and polish

Hydraulics

- Check lift valve
- Check lift cylinder

1999 Specifications

Cub Cadet 1999 Specifications SERIES 3000 TRACTORS

Features and General Specifications:

- Hydrostatic Drive w/Cruise Control
- Shaft Drive Transmission
- Shaft Drive Deck and Front Attachments
- Power Steering
- Hydraulic Lift
- Welded Full Length Twin Channel, 9 gauge Steel Frame
- Deck Height Indicator
- Halogen Headlights
- Taillights w/Reverse Lights
- 27" Turning Radius
- Cast Iron Front Axle
- 4.5 Gallon Fuel Tank
- E-Vac PTO System
- Tilt Steering Wheel
- Differential Lock (3205, 3225)
- Speed:
 - 0-7 MPH Forward
 - 0-4 MPH Reverse
- Tires:
 - 16" x 7.5" Front
 - 24" x 10.5" Rear

<u>Model</u>	<u>Factory No.</u>	<u>Series 3000</u>
3165	14A-654-100	16.0 HP B&S Twin Vanguard OHV, Hydro, Power Steering, Power Lift
3185*	14A-665-100	18.0 HP B&S Twin Vanguard, Hydro, Power Steering, Power Lift
3186	14A-668-100	18.0 HP Kohler V-Twin OHV, Hydro, Power Steering, Power Lift
3205	14A-685-100	20.0 HP Liquid Cooled V-Twin Kawasaki OHV, Power Steering, Power Lift, Differential Lock
3225	14A-688-100	22.0 HP V-Twin Kohler OHV, Power Steering, Power Lift, Differential Lock
*Limited Quantities Available		
<u>Model</u>	<u>Factory No.</u>	<u>Attachments and Accessories</u>
345	190-345-100	Fan Assist Bagger for 48"/54" Deck
289	190-289-100	48" Deck, Shaft Driven
290	190-290-100	54" Deck, Shaft Driven
291	190-291-100	60" Deck, Shaft Driven (3205 & 3225 only)
343	190-343-100	Hydraulic Front Hitch System
352	190-352-100	54" Front Mounted Snow Blade (Requires 343; Optional 288 or 171)
353	190-353-100	45" Snow Thrower, Shaft Driven (Req. 343)
299	190-299-100	Ag Tires/Rims 23" x 8.5"
249	190-249-100	Ag Tires/Rims 23" x 10.5"
366	190-366-100	Rear Turf Tires/Rims 24" x 10.5"
365	190-365-100	Hydraulic 3 Pt. Hitch, Category "O"
924	190-924-100	'A' Frame Hitch Adapter, Converts Sleeve Hitch Attachments To Cat. "O" 3-Pt. Hitch
163	190-163-100	42" Lawn Sweeper
653	190-653-100	10 Cu. Ft. Cart
368	190-368-100	10 Cu. Ft. Heavy Duty Dump Cart
425	190-425-100	17 Cu. Ft. Heavy Duty Dump Cart
161	190-161-000	48" Poly Bed Liner (Fits All 10's) (Tailgate Section Must Be Cut Out By Dealer)

Cub Cadet 1999 Specifications (continued)

<u>Model</u>	<u>Factory No.</u>	<u>Attachments and Accessories</u>
162	190-162-000	60" Poly Bed Liner (Fits All 17's) (Tailgate Section Must Be Cut Out By Dealer)
288	190-288-100	Hydraulic Front Angle Kit (Cannot Be Used w/353)
171	190-171-100	Manual Angle Kit (Cannot Be Used w/353)
412	190-412-100	Rear Wheel Weights (2 per Set) @ 75#
413	190-413-100	Front & Rear Wt. Bracket (Supports 390 Wt.)
190390	190-390-100	Suitcase Weights
506	590-605-100	Mulcher, 48" Deck+
507	590-507-100	Mulcher, 54" Deck++
920	190-920-000	12" Mold Board Plow (Requires 365)
921	190-921-000	Tandem Disc (Requires 365)
922	190-922-000	Spring Cultivator (Requires 365)
400	190-400-100	38" Tiller, 8.0 HP B&S Engine (Requires 365)
206	190-206-100	Series 3000 Tractor Display Stand

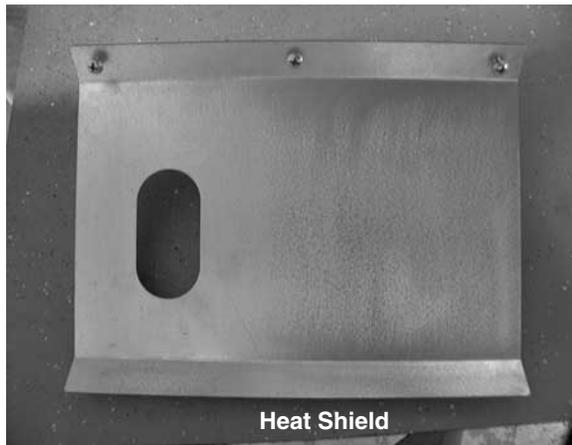
NOTES:

- + To Mount on Series 3000 Deck You Must Order Qty. 1 - 603-0624 and 1- 603-0625 From Parts
- ++ To Mount on Series 3000 Deck You Must Order Qty. 1- 603-0626 and 1- 603-0627 From Parts
It is recommended that the 3165 be equipped with a 48" deck for maximum performance.

1999 3000 Series Engineering Updates

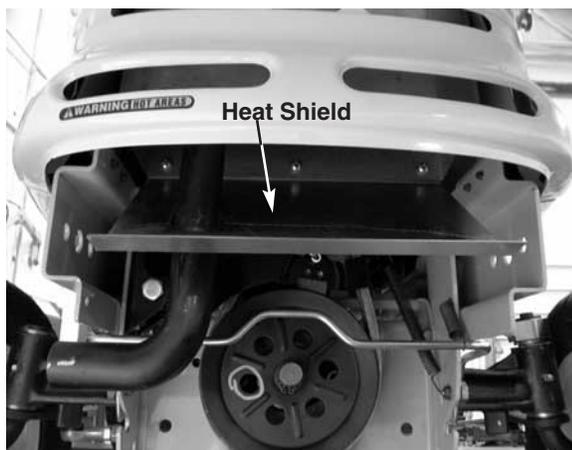
HEAT SHIELD

A heat shield has been installed on all 3000 series tractors for 1999. The heat shield prevents the exhaust gases from browning the grass. Use kit #759-3927. See Service Advisory CC-371.



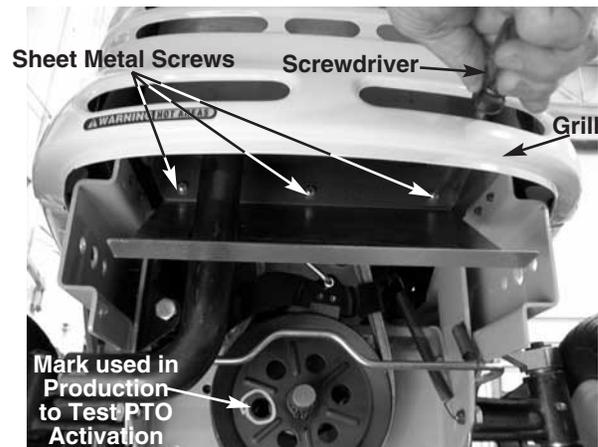
1. Remove both of the hex bolts and lock nuts securing the front bumper to the frame using a 3/4" socket and a 3/4" wrench.
2. Remove the bumper.
3. Slide the muffler shield over the exhaust pipe and rotate it into position.

NOTE: Align all three holes in the top of the muffler shield with the existing shield. Also, the muffler shield will be slanting towards the bottom of the front grill assembly.



4. Secure the muffler shield with three sheet metal screws.

NOTE: Use a long flat blade screwdriver through the air holes in the grill to tighten the sheet metal screws securely.



5. Install the bumper.

LIFT LINK

The lift link has been modified by strengthening the powder metal that connects the lift lever to the hydraulic valve for 1999.

CHECK VALVE

For 1999, a check valve will be installed to the hydraulic valve to prevent the decks and other attachments from leaking down during and after usage.

LIFT STOP BRACKET

A lift stop bracket will be installed on the left hand side of the deck to prevent the deck from hanging up during operations. Use kit #759-3927.

ROLLER HEIGHT ADJUSTER

The rear roller height adjustment mechanism will be changed for 1999. A newly designed detent pin will replace the old one, preventing the loss of cutting height during operations. Use kit #759-3928.

FRONT DECK HANGER ASSEMBLY

The front roller bracket has been redesigned to prevent the front lift rod from detaching during operation.

SEAT IMPROVEMENTS

A safer seat spring, part number 732-0869, can be installed to level the seat for petite operators. In addition, the seat part number 757-3010A, is now made out of a softer material for better operator comfort. See Service Advisory CC-358A Sections 5 and 6.

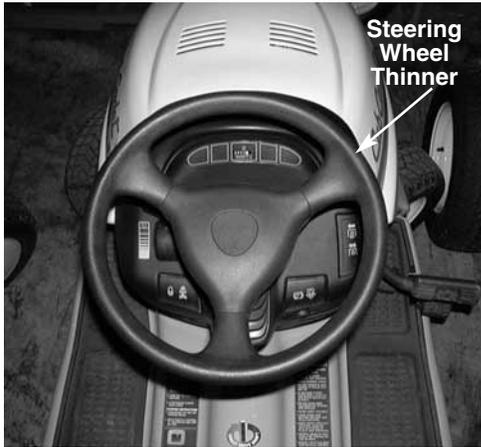
FRONT MOWER DECK HEIGHT ADJUSTER

The front mower deck height adjuster pins have been changed from ball detent pins to quick pull pins.

Cub Cadet 3000

STEERING WHEEL

The thickness of the steering wheel has been increased for operator comfort.



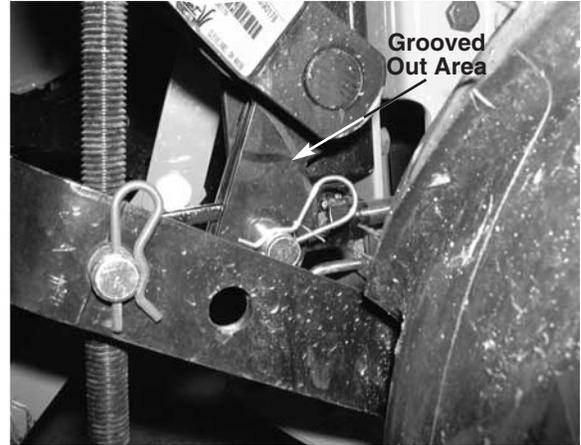
Old Style Steering Wheel



New Thicker Steering Wheel

ROCK SHAFT ASSEMBLY FOR 3 POINT HITCH 190-365-100

The cylinder arms have been redesigned with two V sections cut out to allow for clearance of the clevis nut on the cylinder shaft. See Service Advisory CC-364.



3000 Series Lift Assembly



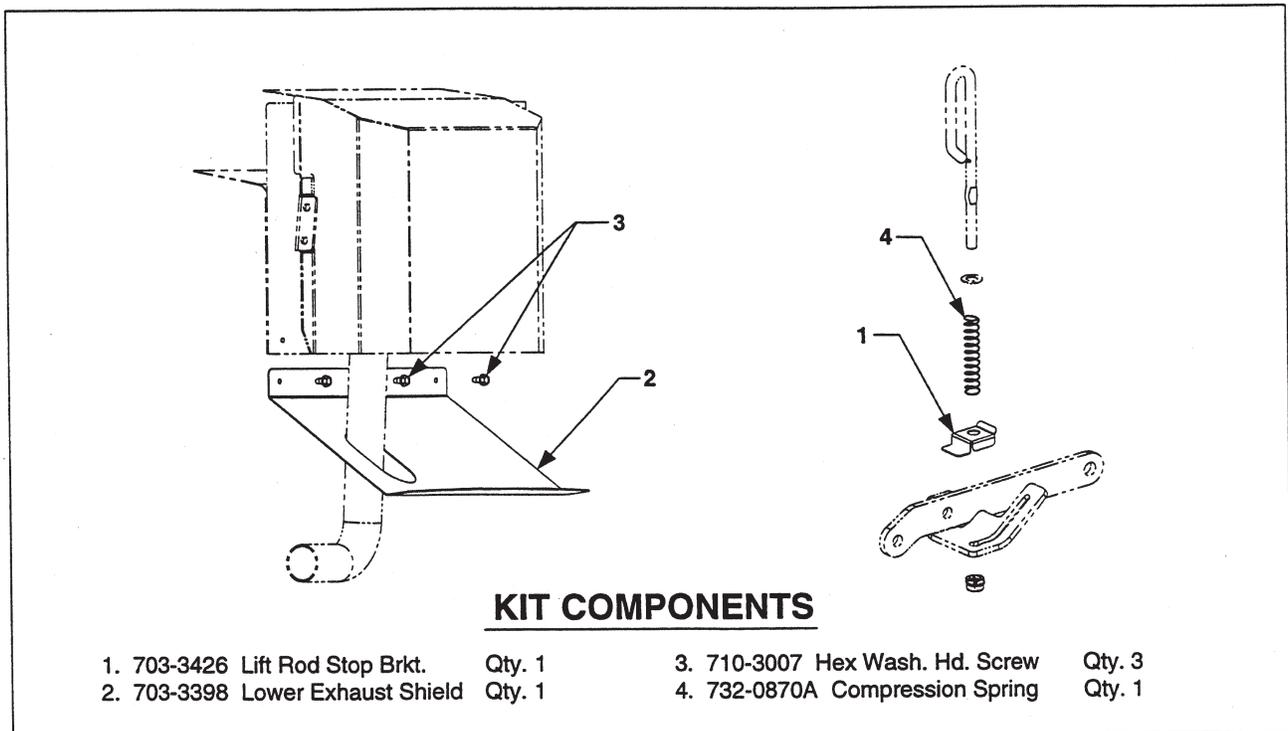
Installation Instructions

HEAT SHIELD AND LIFT BRACKET KIT

KIT NO. 759-3927

For Series 3000 Tractors

w/Mfg. Code 1H018G and Before.



WARNING

Place tractor on a firm and level surface, ensure the PTO switch is in "OFF" position, engage the brake pedal lock, and turn the ignition key to the "OFF" position before working on the tractor.



WARNING

If the tractor has been recently operated, the muffler, exhaust pipe, and surrounding areas will be HOT. Allow the tractor to cool before beginning installation.

CUB CADET P.O. BOX 368023 CLEVELAND, OHIO 44136-9722
 PRINTED IN U.S.A. FORM NO. 772-4258 (7/98)

Cub Cadet 3000

A. INSTALL THE LOWER HEAT SHIELD.

The lower heat shield can be installed without removing any parts from the tractor. However, if improved access is desired, the front grille may be removed. If you do not wish to remove the grille, skip step 1.

1. Remove the front grille as follows:
 - a. Raise the hood and remove the LH and RH side panels from the tractor.
 - b. Pinch the locking barbs and push forward on the two grille mount fasteners on each side of the tractor to release them from the grille mounting strips (See Figure 1). *NOTE: pliers may be used to pinch the barbs, if care is taken to avoid breaking them.*
 - c. Partially lower the hood and slide the grille forward to remove from the tractor.

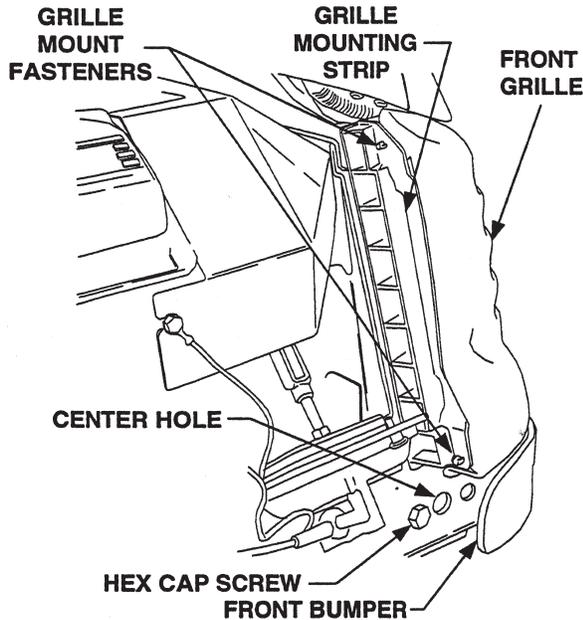


Figure 1

2. Remove the hex cap screw and lock nut securing the front bumper to each side of the frame. Slide the bumper from the frame channels to remove (See Figure 1).
3. With the forms (bends) facing upward and the screw holes inward, slide the heat shield onto the exhaust pipe of the muffler (See Figure 2).
4. While tipping the back of the shield upward, rotate it rearward to position the shield within the frame channels. See Figure 2.

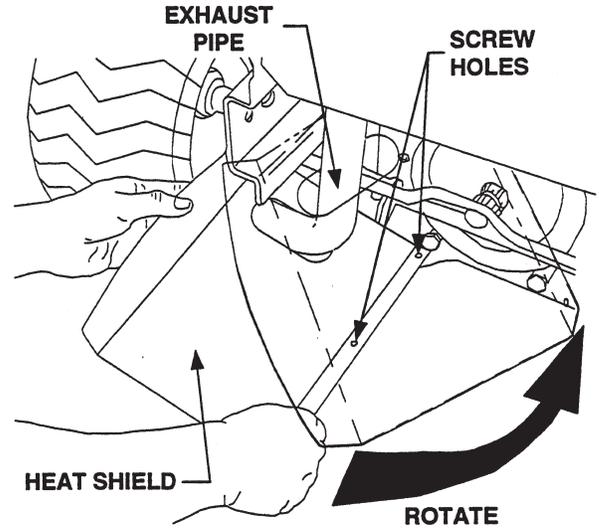


Figure 2

5. Insert the rear of the shield up into the muffler housing so that the three holes in the shield align with those of the rear plate of the muffler housing.
6. Secure the shield to the muffler housing using the three screws provided in the kit (See Figure 3). *NOTE: If the grille was not removed, the screws can be installed by accessing through the lower slots of the grille.*

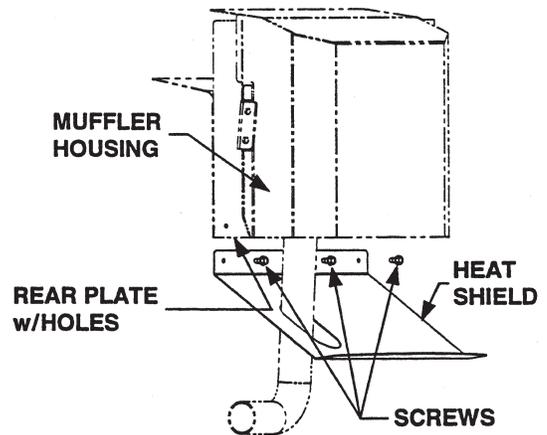


Figure 3

7. If the grille was removed, align the four grille mount fasteners with the corresponding holes in the grille mounting strips and press the grille rearward until locked in place.
8. Slide the bumper into the frame channels until the front holes of the bumper align with the center holes in the frame. Secure the bumper with the previously removed hex cap screws and lock nuts (See Figure 1).

B. INSTALL THE LIFT ROD STOP BRACKET.

Installation of the lift rod stop bracket on the LH lift rod of the tractor does not require complete removal of the mower deck.

1. Raise the front caster wheels and rear rollers to their highest setting (lowest deck setting). Refer to the deck Operator's Manual if necessary.
2. Using the tractor's hydraulic lift system, lower the deck to the ground. Stop the tractor engine.
3. Pull outward and cock the deck support pins in the rear deck brackets so that both spring-loaded pins are held in the disengaged position against the inner surface of the deck brackets (See Figure 4).

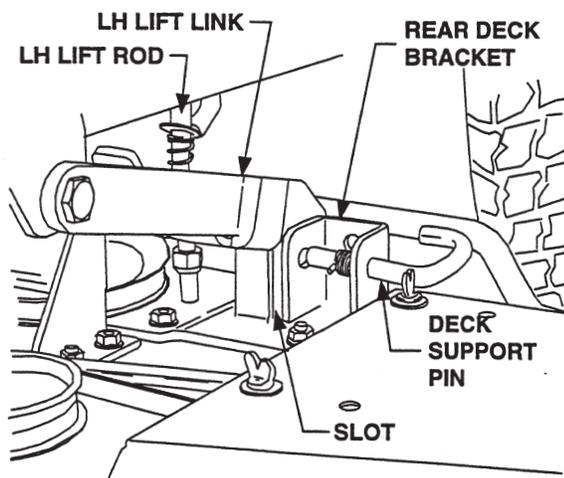
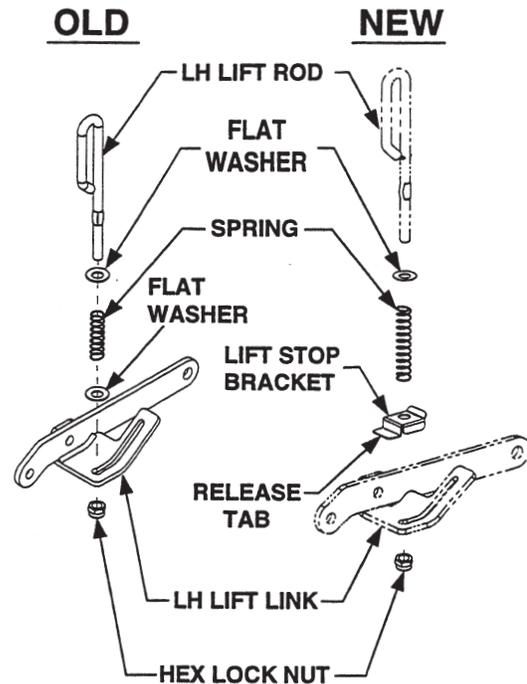


Figure 4

4. After marking its position on the threads of the LH lift rod, remove the hex lock nut from the bottom of the lift rod. Refer to Figure 5.
5. While holding the LH lift link down, slide the LH lift rod upward inside the tractor frame to disengage from the LH lift link. Refer to Figure 5.
6. Slide the lower flat washer and the spring from the bottom of the lift rod. Refer to Figure 5. Discard the washer and spring. Leave the upper flat washer on the rod.
7. Slide the new spring onto the lift rod.
8. With its open side facing downward and the release tab toward the rear, slide the lift stop bracket onto the lift rod. Refer to Figure 5.
9. Again slide the LH lift rod upward in the frame as necessary to allow the rod to be inserted down through the top of the LH lift link. Make certain to maintain proper orientation of the lift stop bracket.

Secure with the hex lock nut, tightened to the earlier made mark on the threads.



VIEWED FROM RIGHT SIDE FOR CLARITY

Figure 5

10. Make certain the LH and RH lift links are in the slots of the rear deck brackets and release the deck support pins (Refer to Figure 4). Maneuver the deck slightly to align the pins with the holes of the lift links. The spring tension will push the pins through the lift links when aligned.
11. Reset the front caster wheels and rear roller to the desired height setting.

C. INSTALLATION AND REMOVAL OF DECK.

The left lift link must be raised to provide clearance for sliding the mower deck under, or out from under, the tractor. With the addition of the lift stop bracket, the procedure for locking the left lift link in its *deck installation position* will slightly change as follows:

1. Holding the left lift rod downward, *lift upward on the release tab of the lift stop bracket* while raising the rearward end of the lift link to align the notch of the rod with the slot of the link (Refer to the deck Operator's Manual).
2. Swing the lift rod forward until fully to the front of the lift link slot.



Installation Instructions

ROLLER HEIGHT ADJUSTMENT UPDATE KIT

KIT NO. 759-3928

**For Series 3000 Tractor Mower Decks
w/Mfg. Code 1H018G and Before.**

KIT COMPONENTS

PART NO.	DESCRIPTION	QTY.
710-1800	Socket Hd. Screw w/Lock Patch, 1/4-20	1
715-0129	Spirol Pin, .125 x .812	1
715-0150	Roll Pin, 3/16 x 1.1	2
603-0693	Roller Adjustment Knob Assembly	1
731-3287	Cap	1

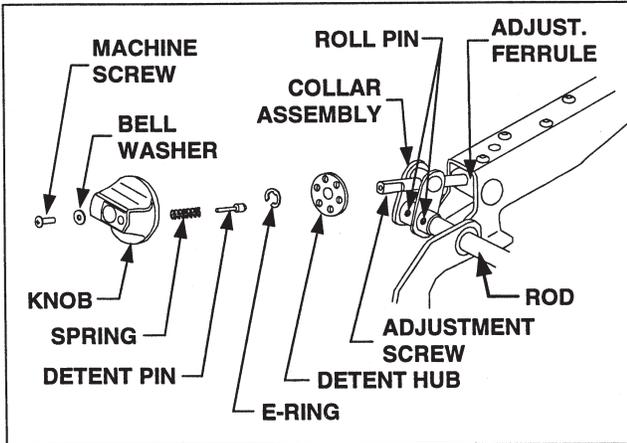


Figure 1

A. REMOVAL and PREPARATION. Refer to Figure 1.

1. Adjust the rollers to their highest setting (lowest deck setting) then lower the deck to the ground.
2. Pull the label from the knob, and remove the machine screw and bell washer to remove the knob. Discard the machine screw and washer.

3. Pull the detent pin and spring from the original knob. Discard the knob and detent pin.
4. Remove the E-ring from the adjustment screw and slide the detent hub off the screw. Discard the E-ring.
5. Using a drift punch, drive out the two roll pins that secure the collar assembly to the pivot arm rod.
6. Unscrew the adjustment screw completely from the adjustment ferrule; then slide the screw from the collar assembly ferrule.
7. Secure the adjustment screw in a vise. At the ring groove in the screw, drill a .127 (1/8 inch) hole through the diameter (See Figure 2).

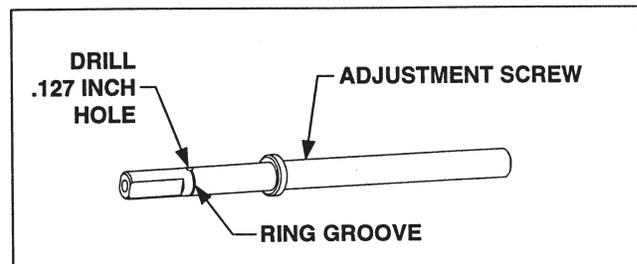


Figure 2

8. Slide the adjustment screw into the collar assembly ferrule; then partially screw into the adjustment ferrule on the deck.
9. Align the holes and secure the collar assembly to the pivot arm rod using the two roll pins provided in the kit. Refer to Figure 1.
10. Secure the detent hub and open up the six perimeter holes to .281 inch using a 9/32" drill bit.
11. Slide the detent hub fully onto the adjustment screw, making certain the hub is forward of the newly drilled hole in the adjustment screw.
12. Capture the detent hub on the adjustment screw by driving the spirol pin provided with the kit into the hole in the screw (See Figure 3). Make certain the spirol pin is centered in the screw.

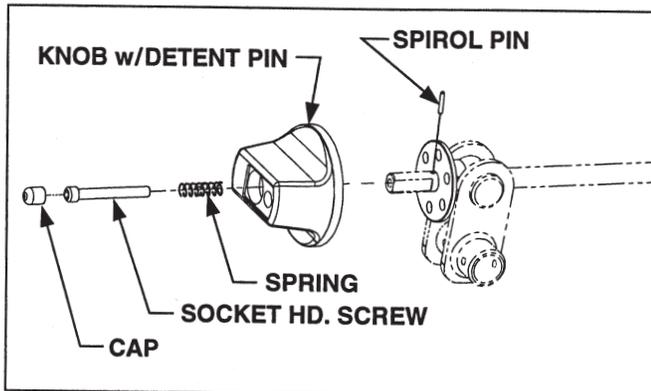


Figure 3

B. INSTALL KIT COMPONENTS. Refer to Figure 3.

1. Slide the new knob completely onto the adjustment screw, making sure the detent pin in the knob engages one of the holes of the detent hub.
2. Slide the spring (removed earlier) onto the socket hd. screw. Insert the screw through the center hole of the knob and fully tighten into the adjustment screw.
3. Push the cap onto the the head of the screw.

C. OPERATION. Adjusting the roller height.

1. Pull the knob rearward (outward) to disengage the detent pin of the knob from the hole in the detent hub.
2. Holding the knob rearward, turn the knob as necessary to obtain the desired height (should correspond with the index setting of the front caster wheels).
3. Release the knob and turn as necessary to align the detent pin with the nearest hole in the detent hub. Make certain the pin is fully engaged in the hole.

Fender Assembly Removal and Reinstallation

1. Slide the seat back and remove the front two pan torx head screws using a T30 torx.
2. Slide the seat forward and remove the rear two pan torx head screws using a T30 torx.
3. Pivot the seat assembly to the side and disconnect the seat safety switch. See figure 1.

NOTE: Be careful not to scratch the fender with the seat support brackets. It is advisable to use a towel or cloth under the seat when pivoting the seat.

4. Remove the seat from the tractor. See figure 1.

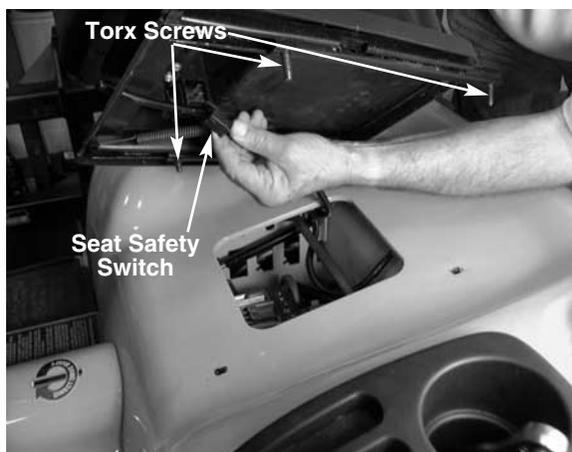


FIGURE 1.

5. Remove all the hex bolts securing the three foot pedals to the right side of the unit using a 9/16 socket. See figure 2.

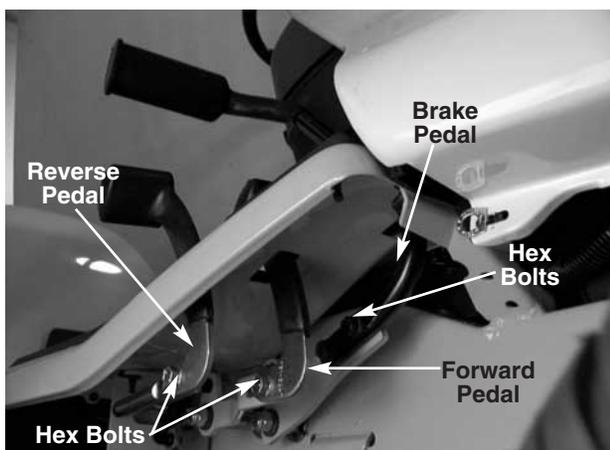


FIGURE 2.

6. Remove the hex bolt securing the differential lock out pedal on the left side of the unit using a 9/16 socket. Remove the "E" clip and the nylon flange bearing from the pivot shaft.

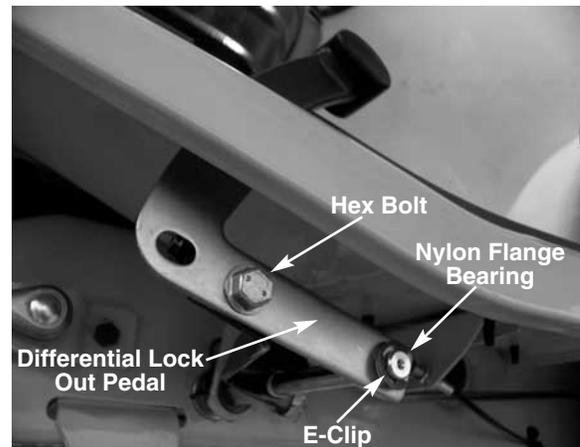


FIGURE 3.

7. Remove both rubber floor pads from the running boards. See figure 4.
8. Lift the hood and remove the battery cover.
9. Remove both side panels from the tractor by raising the latches horizontally and turning the latches 1/4 turn. See figure 4.
10. Loosen all four plastic wing nuts holding the dash panel screen in place. See figure 4.
11. Pull the dash screen towards the rear of the unit and out of the dash panel. See figure 4.

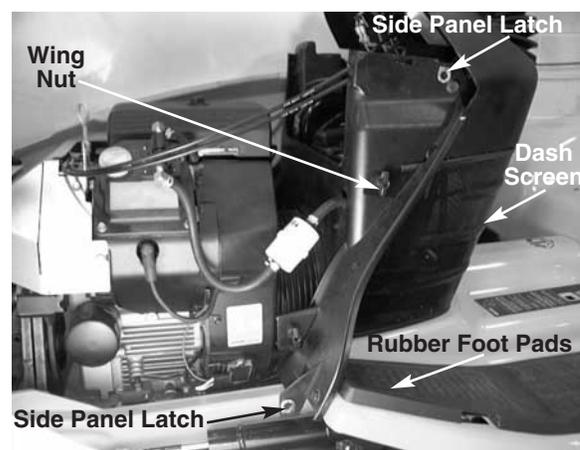


FIGURE 4.

Cub Cadet 3000

12. Remove all four running board hex bolts from the tractor using a 1/2" socket. See figure 5.

NOTE: There are two bolts fastening the running boards to the frame where the foot pads connect and there are two bolts fastening the running boards to the dash panel.

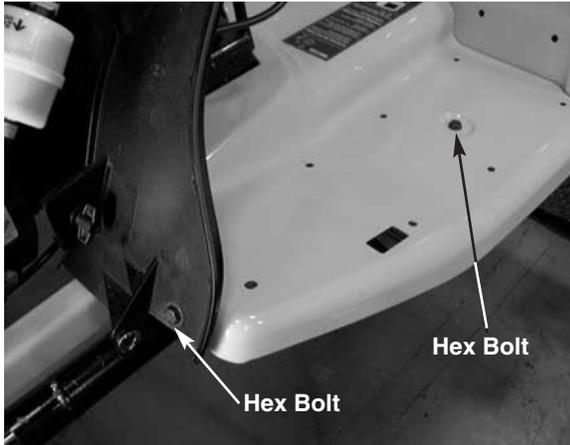


FIGURE 5.

13. Remove the fuel cap.
14. Remove the tail light sockets from the tail light assemblies by pushing in on the sockets gently and twisting a 1/4 turn. See figure 6.

NOTE: When pulling the sockets out of the tail light assemblies, it is very important to make sure the light bulbs come straight out, or the light bulbs will fall into the tail light assemblies. Also, note the color of the wires for reinstallation. The white wires go to the reverse lights. See figure 6.

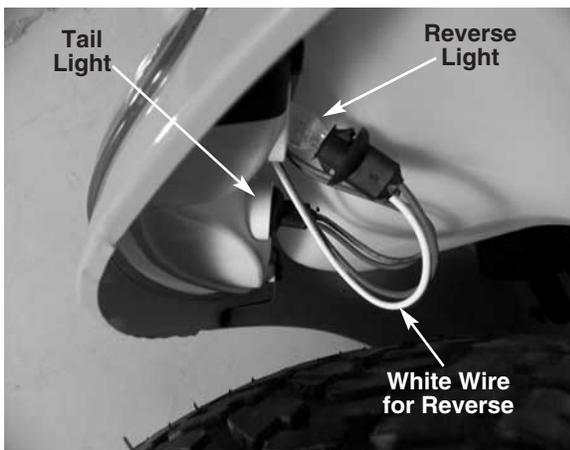


FIGURE 6.

15. Raise the rear fender high enough to access the hydraulic lift handle clamp. See figure 7.
16. Loosen the clamp connecting the hydraulic lift handle to the center lift valve using a 1/2" socket.

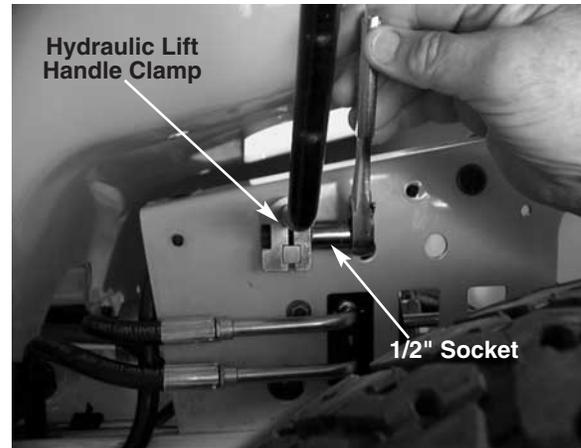


FIGURE 7.

17. Remove the lift handle from the tractor through the slot in the flap. See figure 8.

NOTE: If the lever is not removed at this time, damage may occur to the lift knob.

18. Raise and remove the fender assembly.

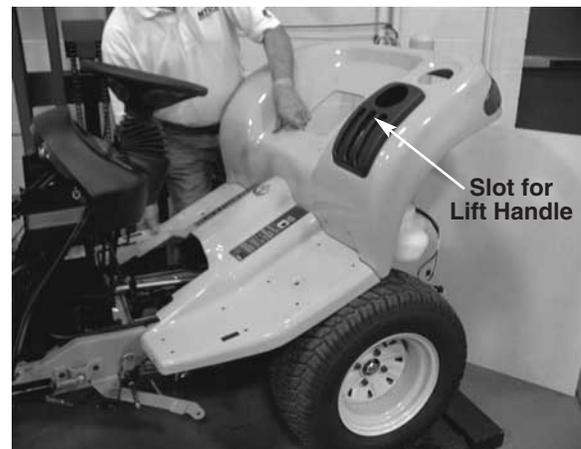
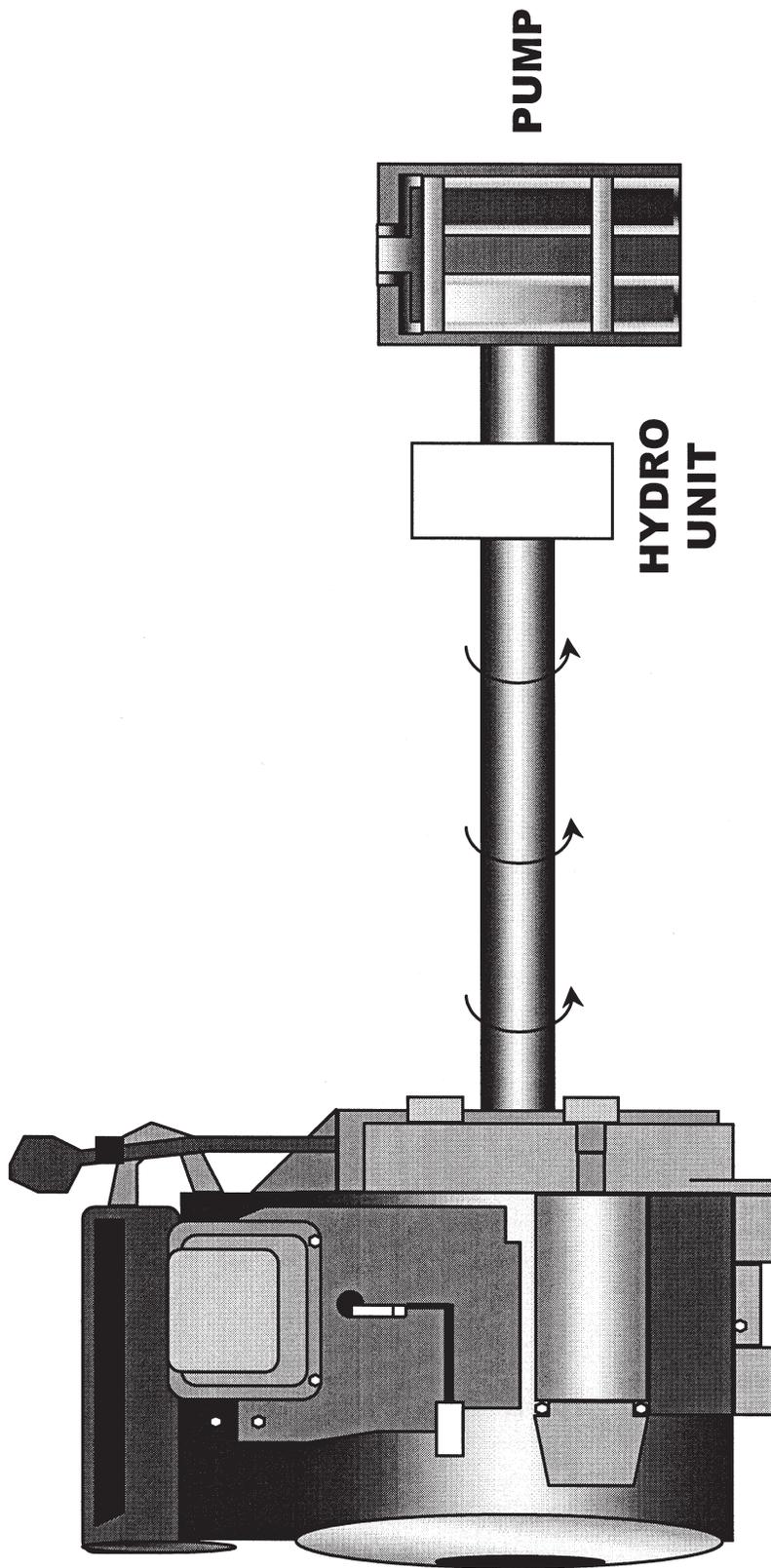


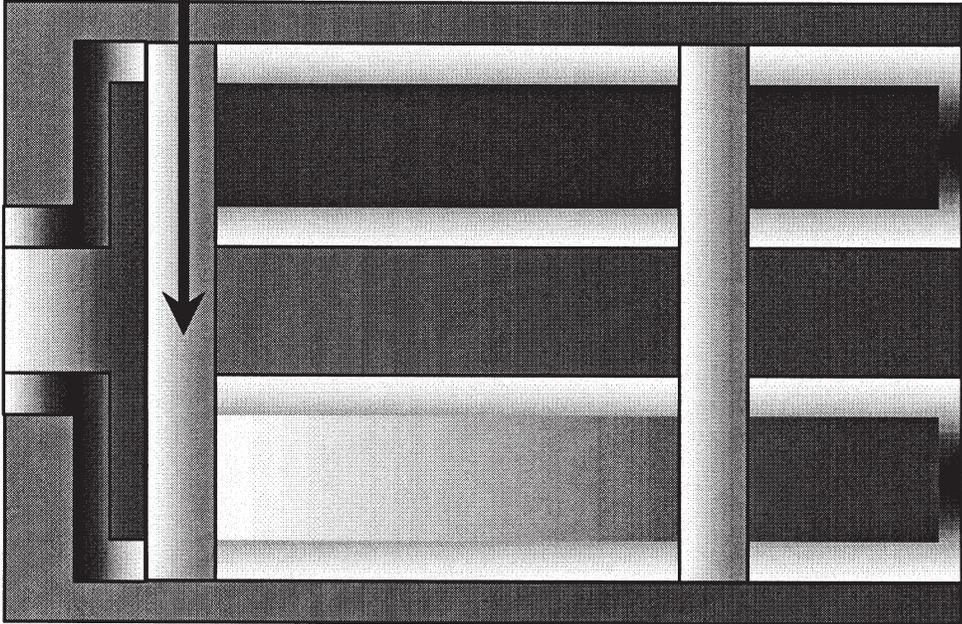
FIGURE 8.

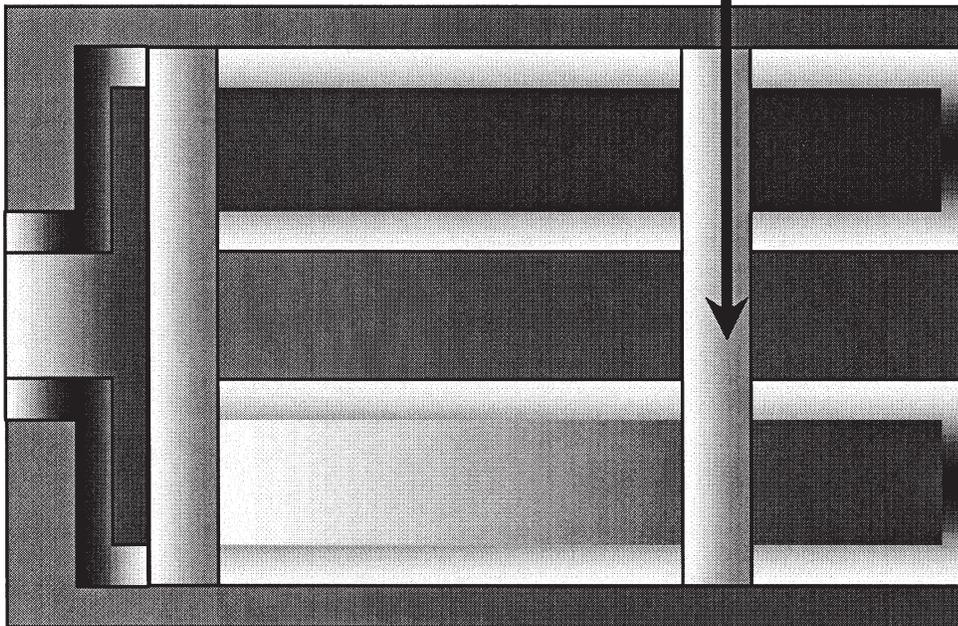
19. Reinstall the fuel cap.



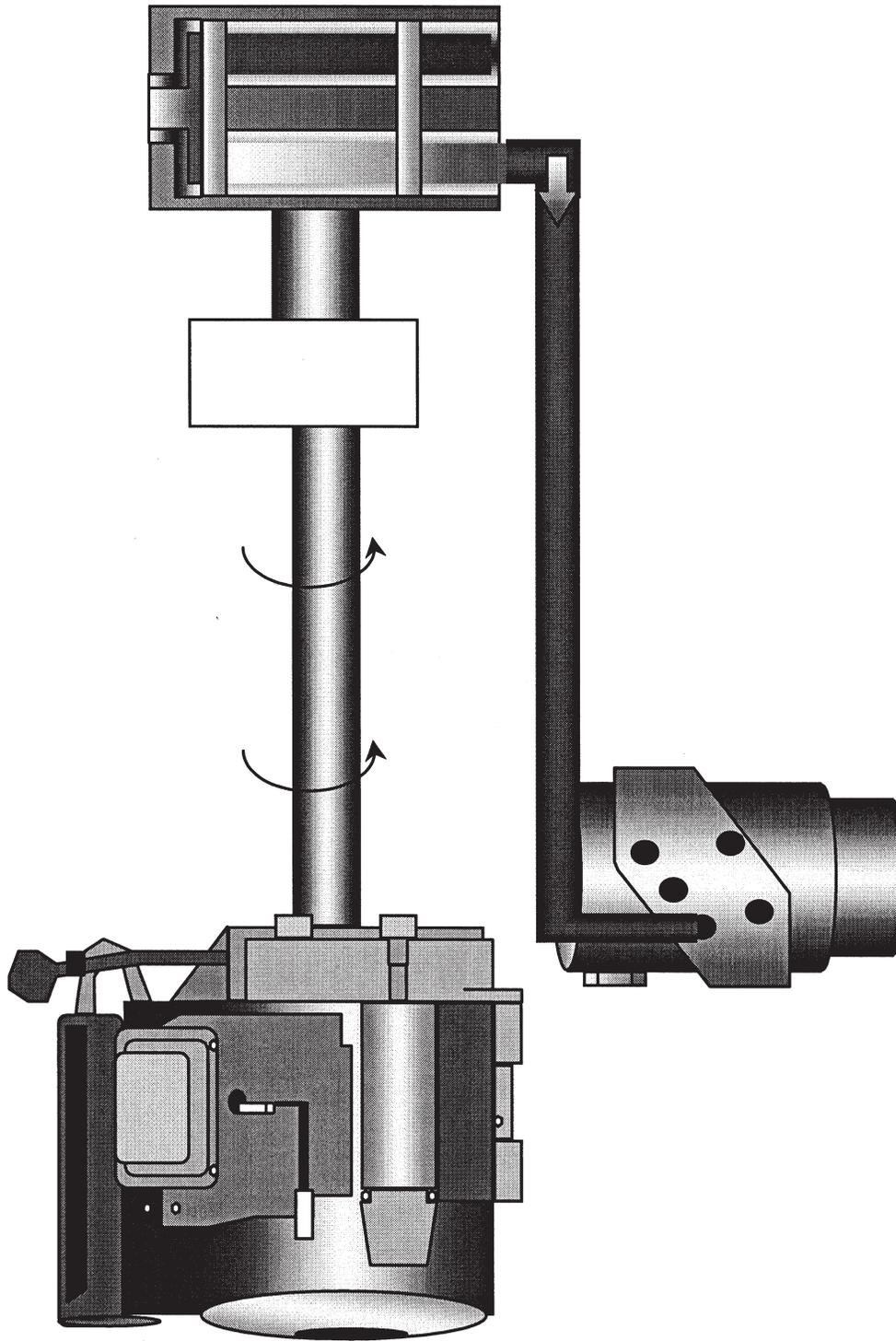
The engine turns a drive shaft attached to the hydraulic pump on transaxle

The pump draws fluid from the hydraulic reservoir through a pick-up filter.

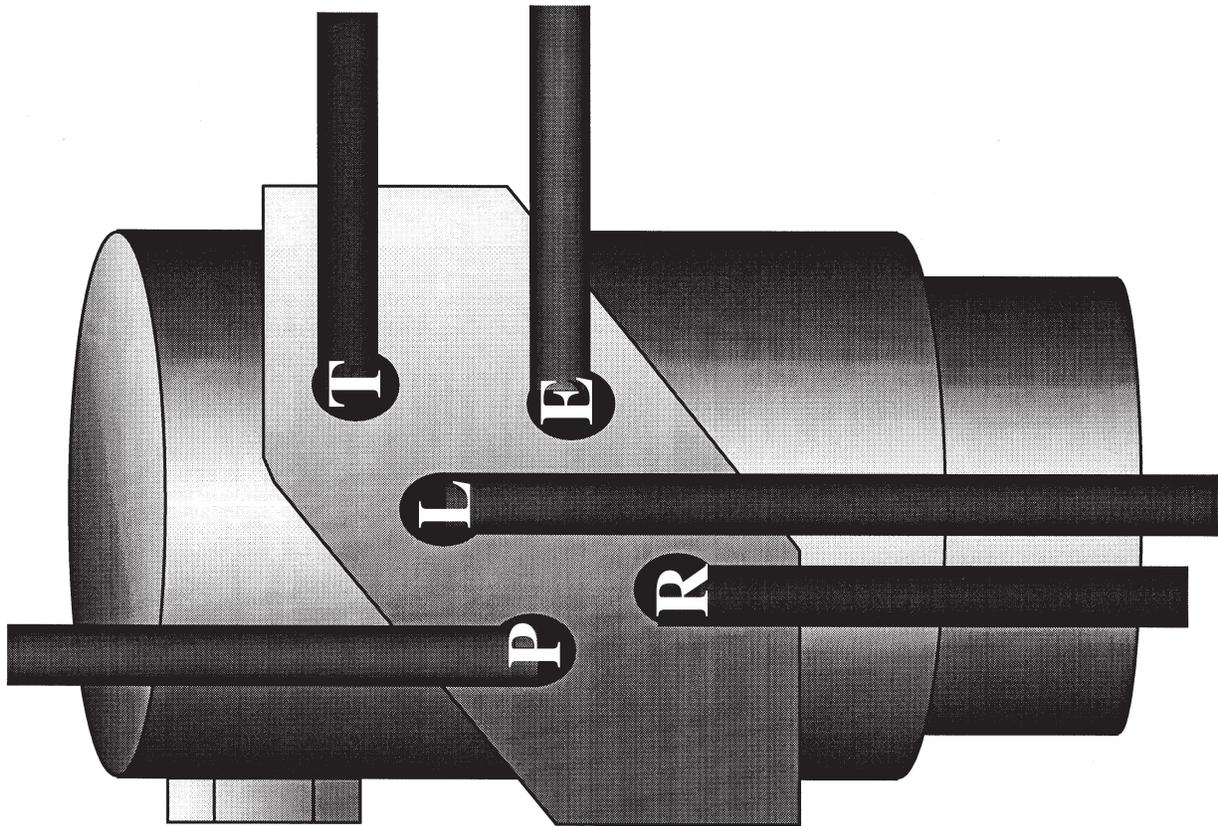




A second filter is added to clean fluid trapped in the steering circuit.



A line is added from the pump to a steering control unit.



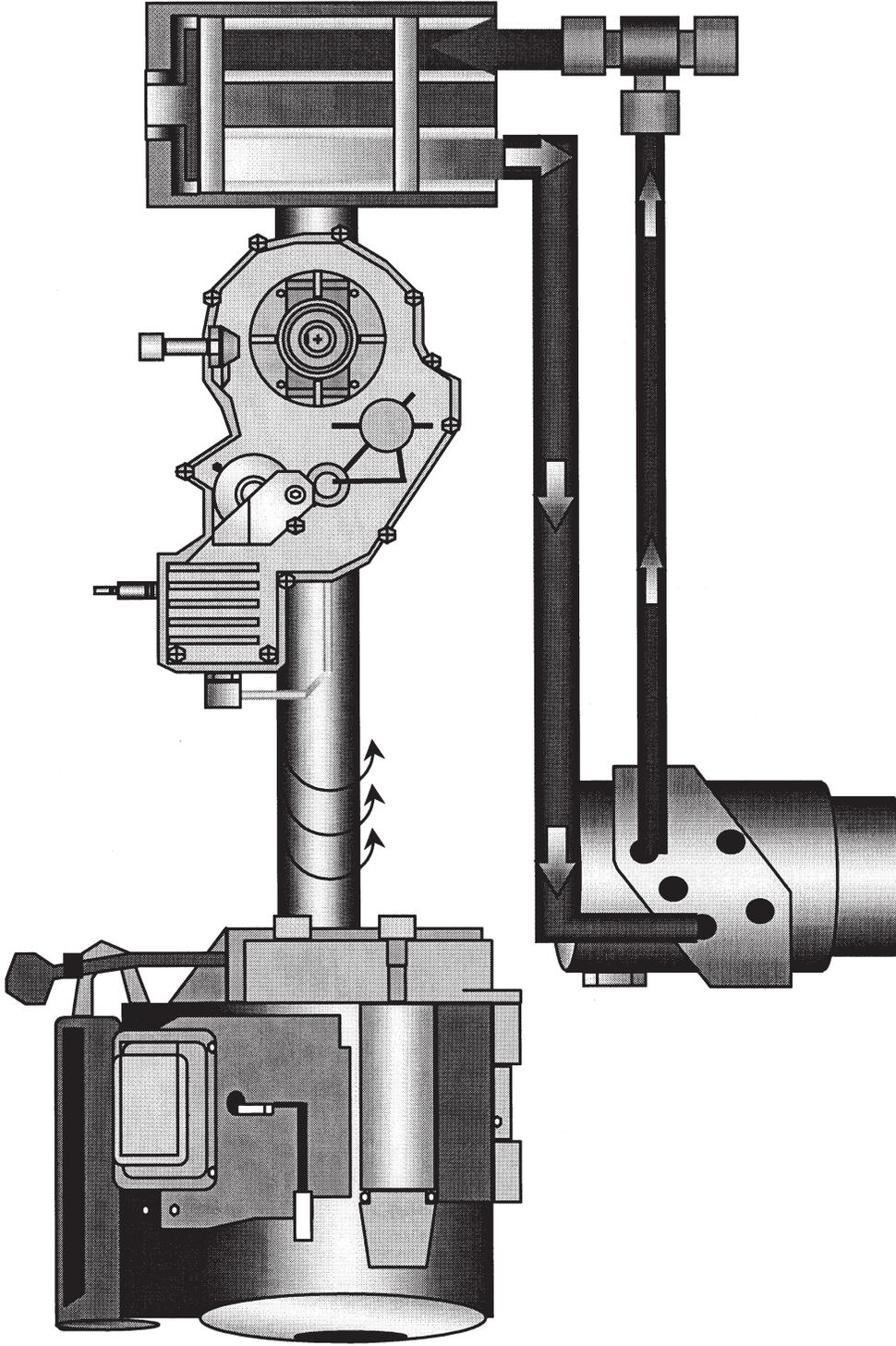
P - **Power** (received)

L - **Left**

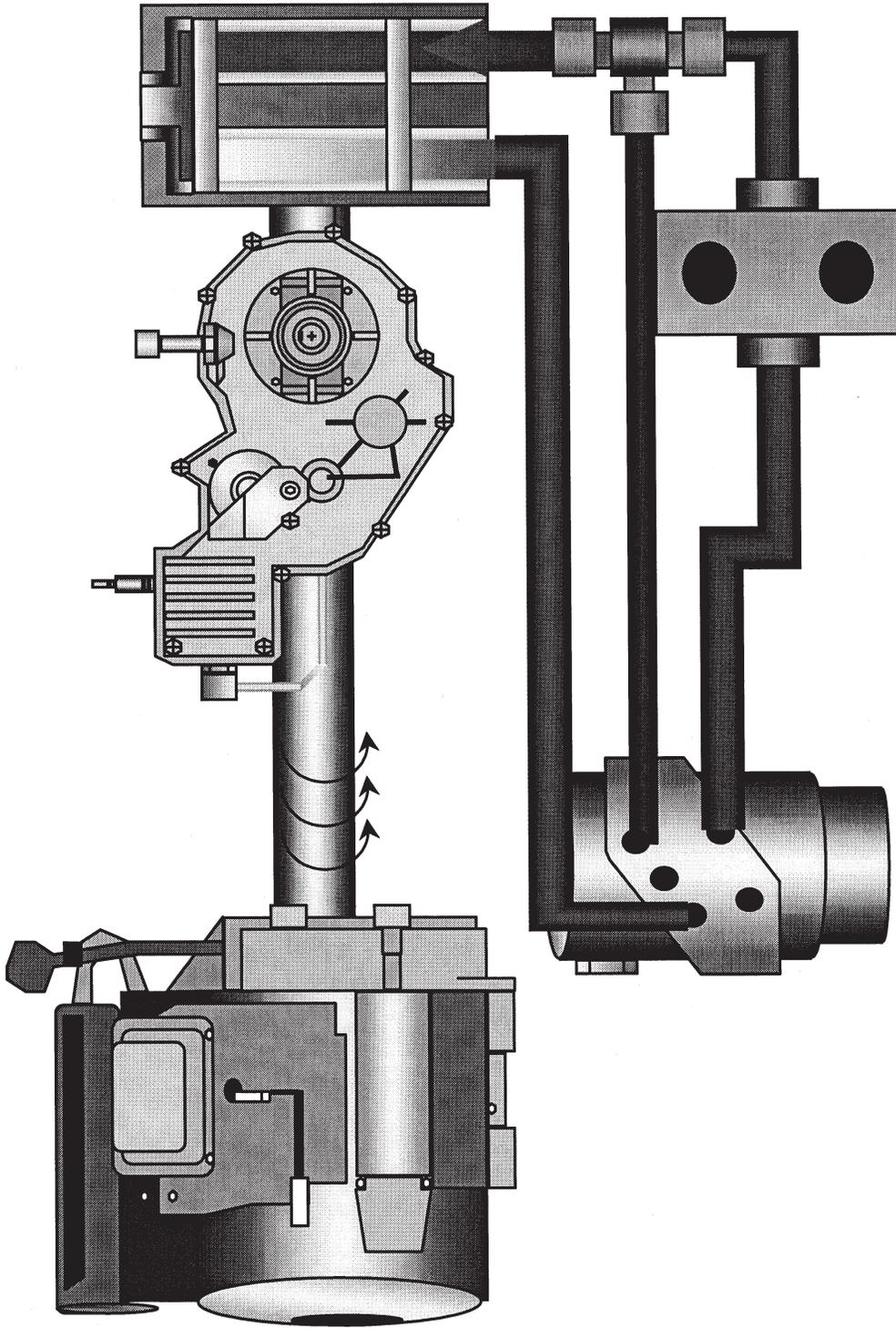
R - **Right**

E - **Extra** (Power to Auxiliary)

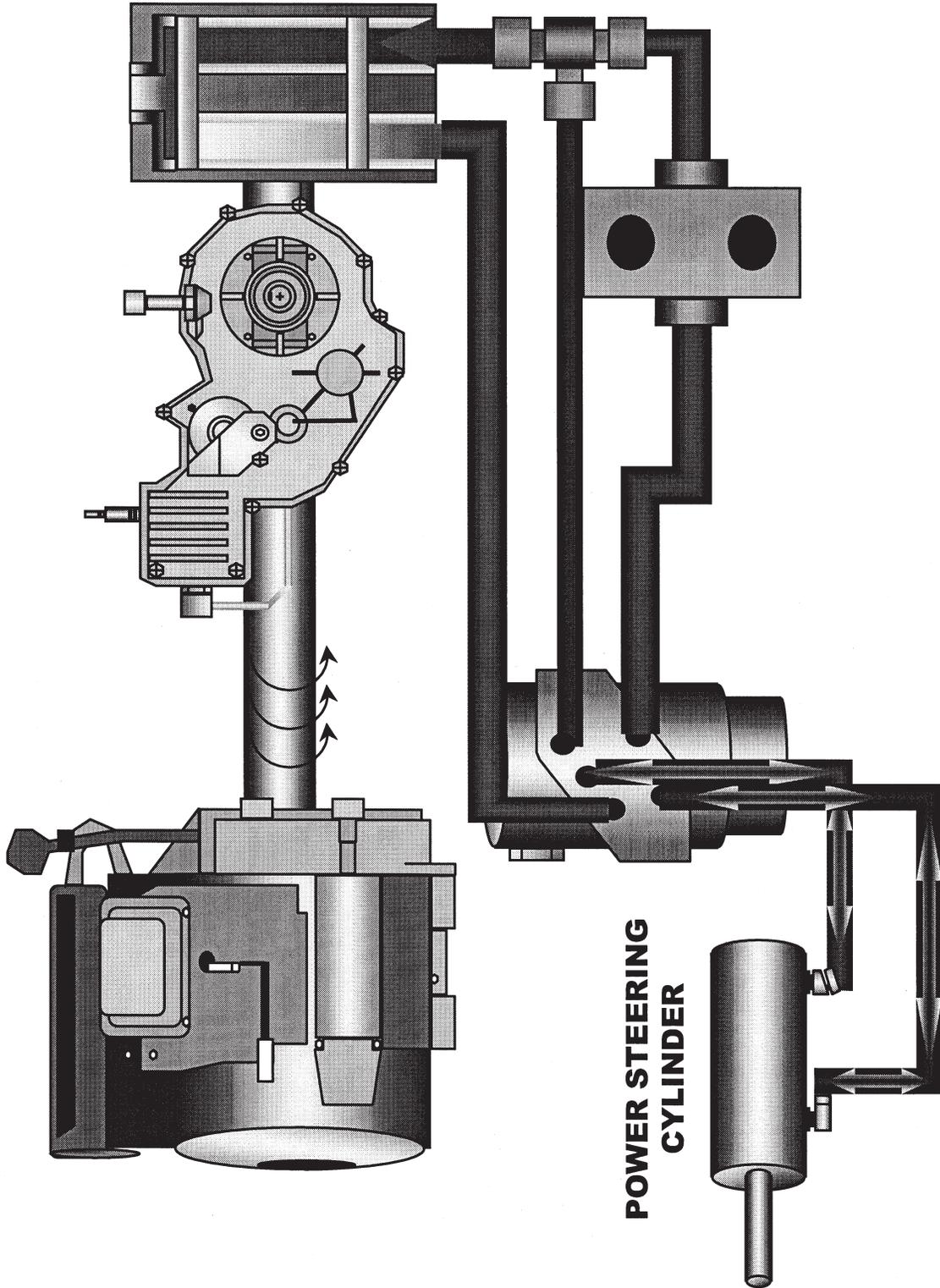
T - **Tank** (fluid returned)

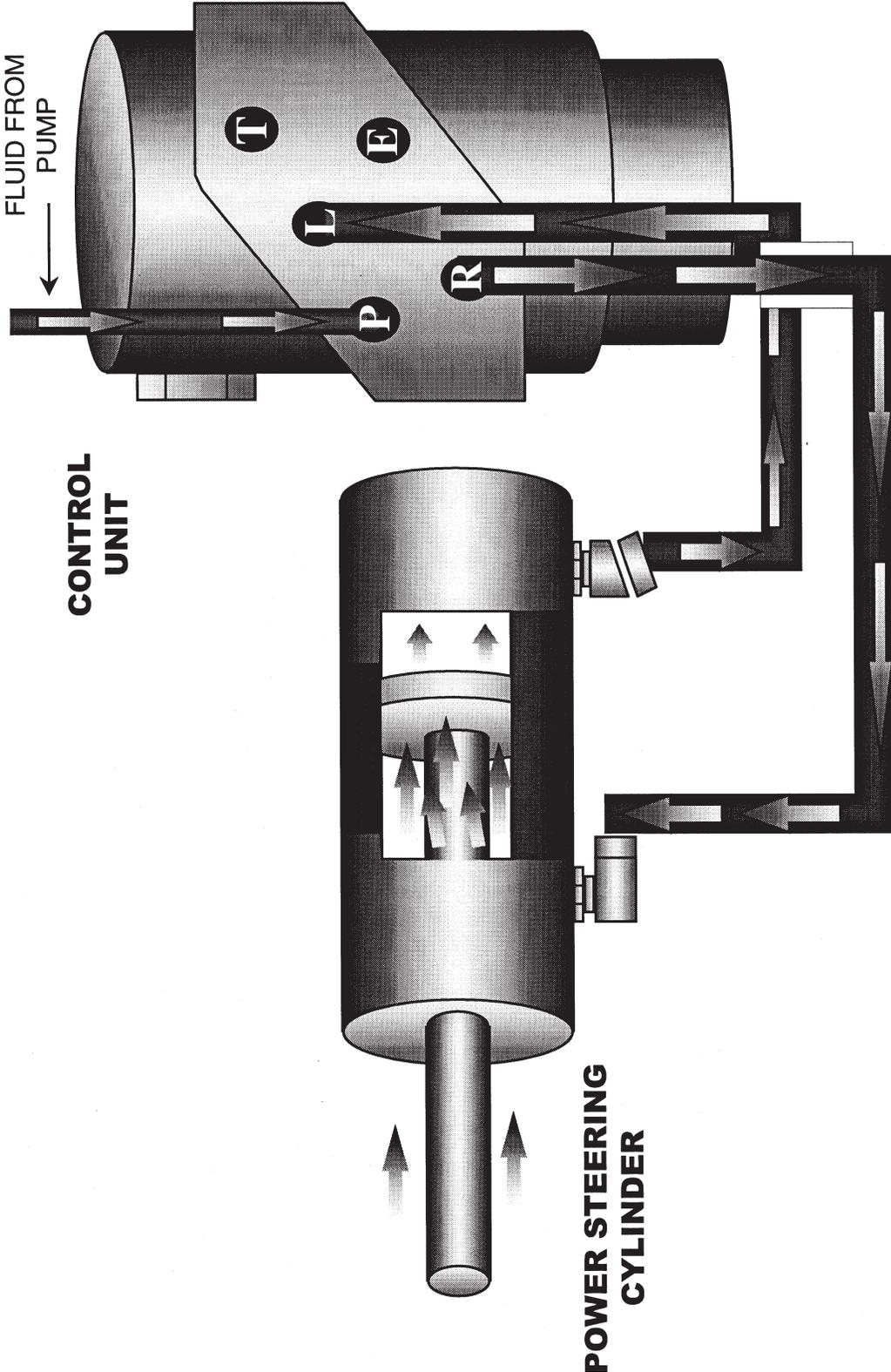


An auxiliary line is added from the control unit to a T-fitting which sends fluid back through to the pump.

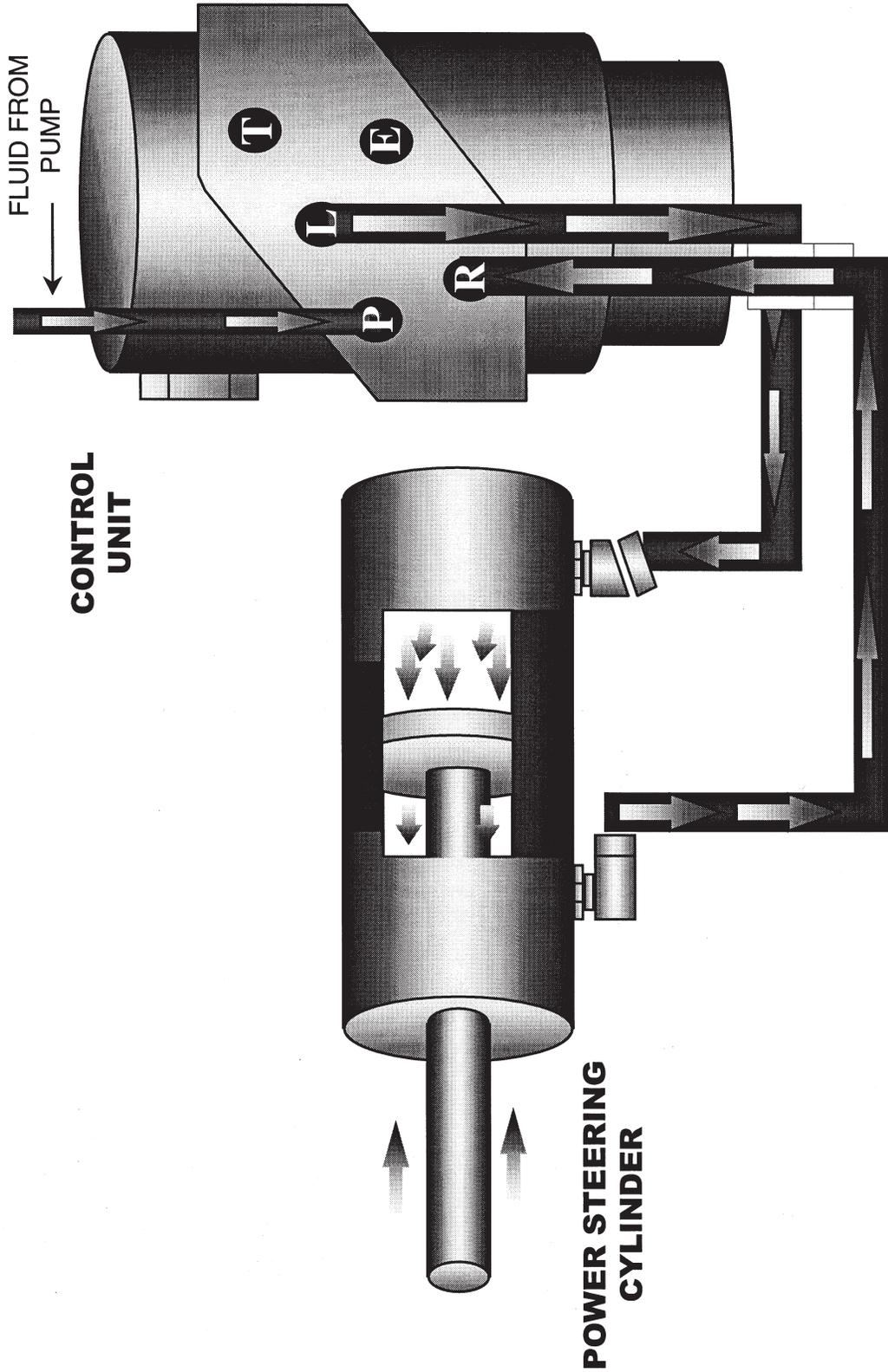


An auxiliary line is added from the control unit to a valve for the attachments and back through T-fitting.

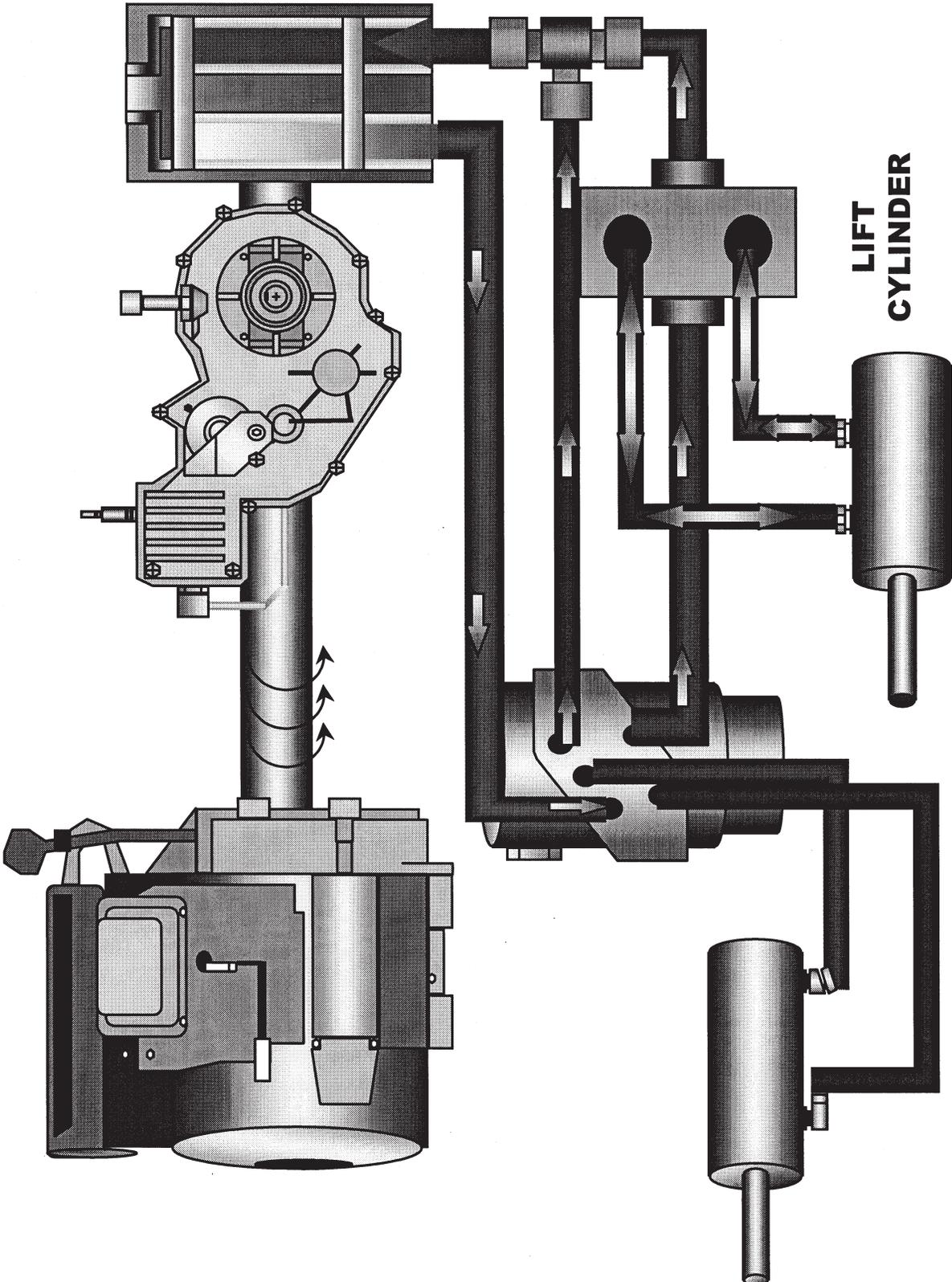




Fluid from the control unit is sent to the front of the cylinder and forces any fluid in the cylinder out the rear. This will result in a right turn.



To make a left turn, fluid is sent to the rear of the cylinder and forces any other fluid out the front.



Two Bi-directional lines are added to each (up to three) auxiliary lift cylinder.

