



MODEL 80
RIDING LAWN MOWER
Service Manual No. 9-51051

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JI Case
A Tenneco Company



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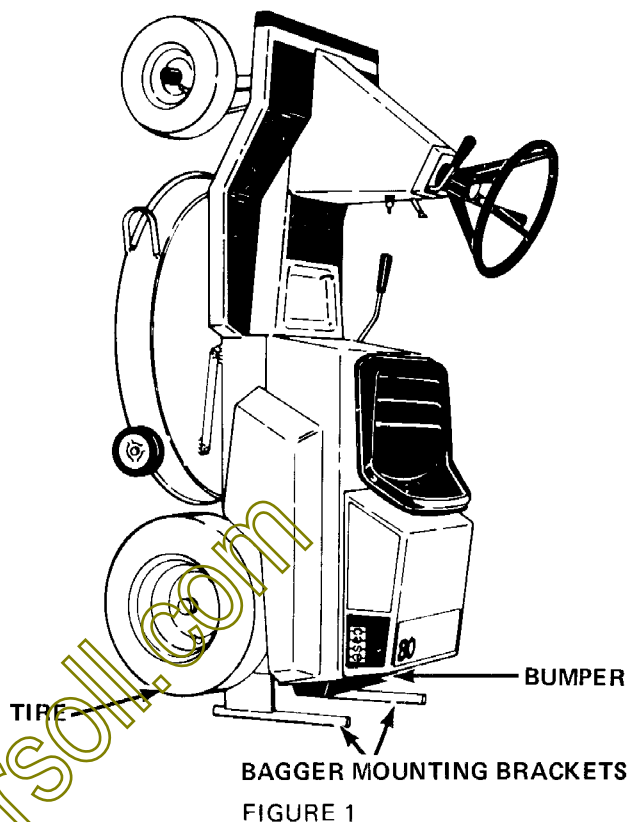
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STANDING MOWER ON END FOR SERVICE

Some job operations are more easily performed with the mower stood on its end.

The following steps must be taken before lifting the mower:

1. Drain gasoline into an approved container to prevent leakage.
2. Remove battery. Tipping will cause particles of sediment from the bottom of the battery to lodge between cell plates. This will ruin the battery.
3. Close and latch engine enclosure.
4. Engage and lock parking brake.
5. Lift by front frame area only. DO NOT lift by front rubber bumper.
6. Avoid strain and physical injury when lifting. Obtain help if required.
7. Balance mower on rear tires and rear rubber bumper. Balance mower on bagger attachment mounting brackets if so equipped.



MOWER DECK SERVICE

BELT REPLACEMENT

1. Stand mower on end in accordance with STANDING MOWER ON END FOR SERVICE section of this manual. (Alternate method - approach mower from left side.)
2. Place mower adjust lever in lowest cutting position.
3. Place mower drive lever in OFF position.
4. Remove belt from left side of mower drive pulley.

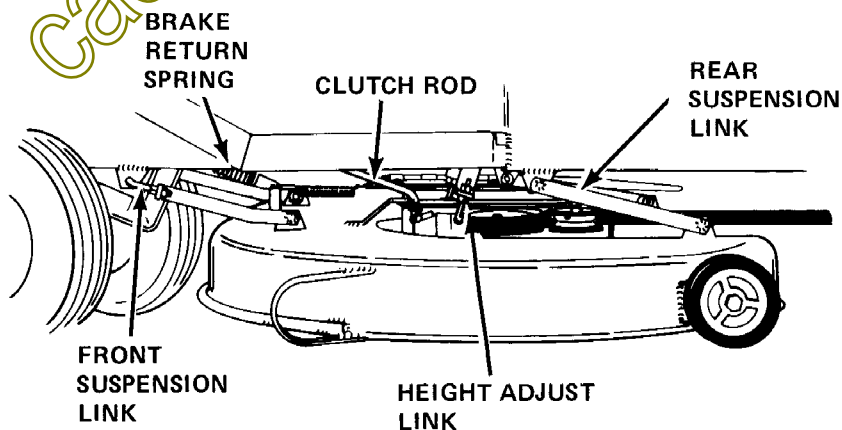


FIGURE 2

5. Place mower drive lever in ON position. This lifts belt brake away from belt.
6. Remove belt from right side of mower drive pulley.
7. Remove belt from engine pulley.
8. Reverse procedure for Installation.

DECK REMOVAL AND INSTALLATION

1. Stand mower on end in accordance with STANDING MOWER ON END FOR SERVICE section of this manual.
2. Remove mower belt in accordance with BELT REPLACEMENT section of this manual.
3. Remove linkage:
 - a. clutch rod at mower deck
 - b. rear suspension links at frame mounting tabs
 - c. height adjust links at deck mounting tabs
 - d. front suspension links at frame mounting tabs
 - e. brake return spring at mower deck
4. Reverse procedure for installation.

LEVELING MOWER DECK

1. Position mower on level surface, such as, a concrete garage floor.
2. Inflate tires to specification provided in the operator's manual.
3. Level Side-to-Side First:
 - a. place mower adjust lever in middle hole
 - b. place mower drive lever in OFF position
 - c. position blade perpendicular to the mower chassis
 - d. turn height-adjust link nuts until blade tips are the same height from the floor
4. Level Front-to-Rear Second:
 - a. position blade parallel to the mower chassis
 - b. turn front suspension link nuts equally until front tip of blade is
 1. 3/8 to 1/2 inch (9-12 mm) lower than rear if bagger attachment is installed
 2. 1/4 to 3/8 inch (6-9 mm) lower than rear if not equipped with bagger attachment
 - c. make this adjustment with the operator's seat unoccupied and the bagger (if so equipped) empty
 - d. recheck side-to-side level and readjust if necessary

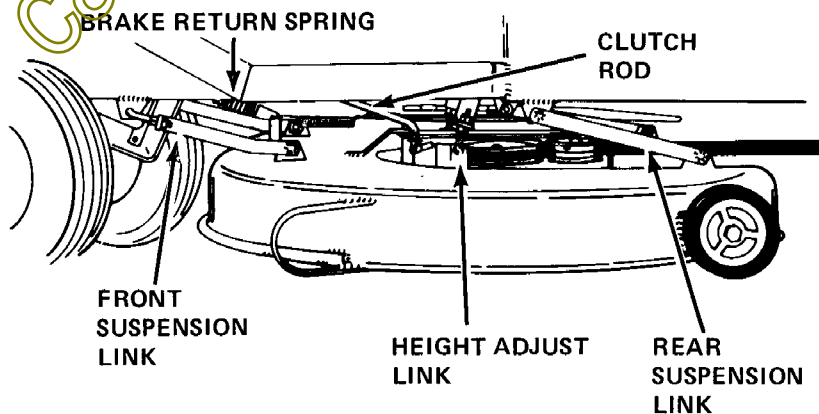


FIGURE 3

ENGINE SERVICE

The engine must be removed to repair the following areas:

1. camshaft
2. valves
3. crankshaft
4. piston
5. connecting rod
6. engine block

Other areas can be serviced with the engine in place in the mower chassis.

REMOVAL OF ENGINE COMPLETE WITH DRIVE PIVOT AND SPROCKET HOUSING

1. Remove rear chain guard bolt.
2. Stand mower on end in accordance with **STANDING THE MOWER ON END FOR SERVICE** section of this manual.
3. Remove mower deck in accordance with **DECK REMOVAL AND INSTALLATION** section of this manual.
4. Remove chain guard.
5. Remove chain.

NOTE: Release belt tension as shown in Figure 4.

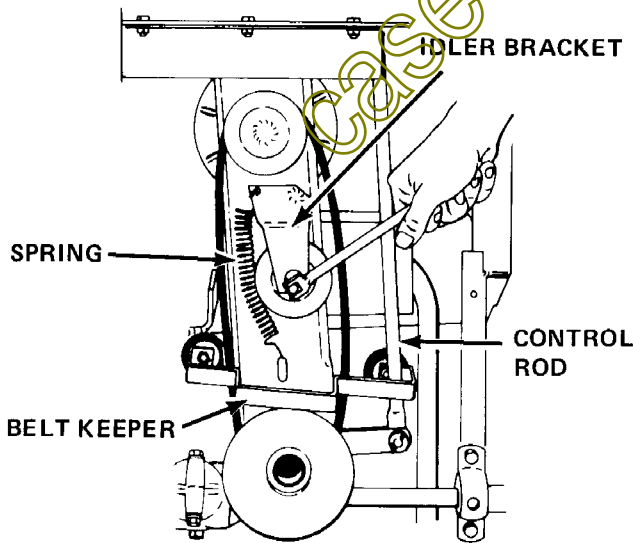
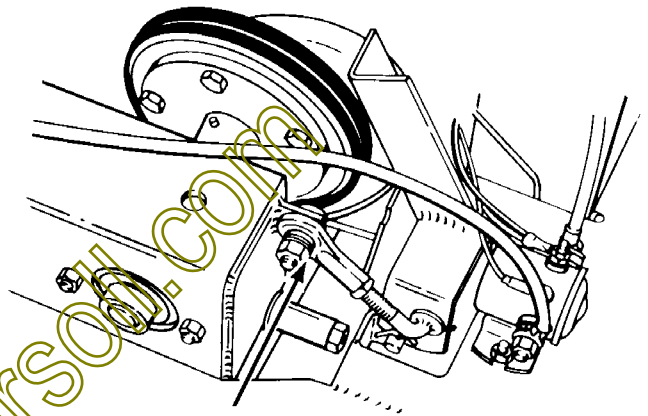


FIGURE 4

6. Remove transmission drive belt.
7. Remove control rod from drive pivot.
8. Loosen engine pulley.

IMPORTANT: Carefully loosen pulley after taking out center bolt. Excessive force will cause pulley to distort. **DO NOT** remove pulley at this time.

9. Place mower back on its wheels.
10. Disconnect wires and throttle control from engine.
11. Disconnect clutch link at sprocket housing.



CLUTCH LINK

(EARLY PRODUCTION)
FIGURE 5

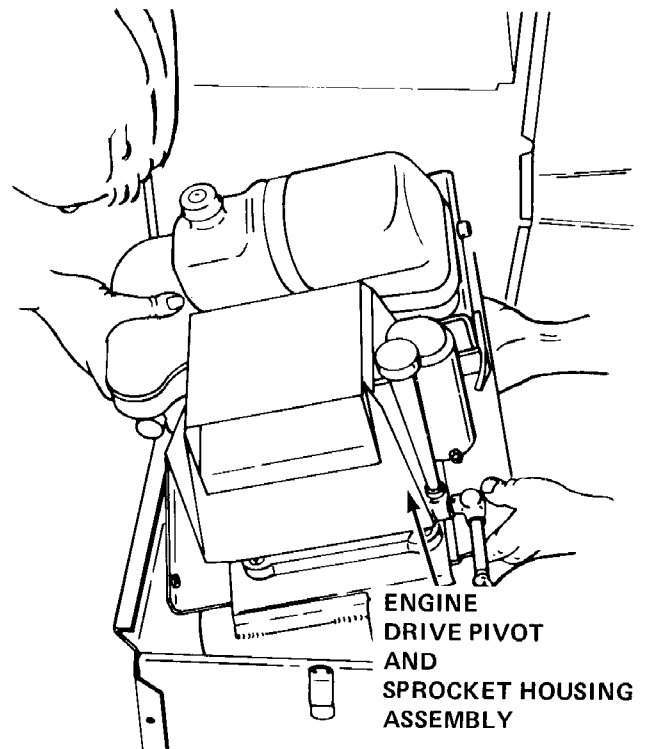


FIGURE 6

12. Remove the four (4) bolts securing the engine mounting plate to chassis.
13. Carefully lift engine, drive pivot and sprocket housing from chassis and place on work bench. Slip pulley from engine crankshaft as engine is removed.
14. Remove exhaust pipe and muffler.
15. Remove four (4) bolts securing the engine to the mounting plate.
6. Secure with four (4) bolts.
7. Connect and adjust clutch link. Follow Adjustment Procedure in CLUTCH LINK ADJUSTMENT section.
8. Reconnect wires and throttle control.
9. Stand mower on end in accordance with STANDING MOWER ON END FOR SERVICE section of this manual.
10. Install:
 - a. transmission drive belt
 - b. pivot control rod
 - c. chain with connector link plate and spring clip out-board and closed end of spring clip facing forward direction of chain travel
 - d. chain guard
 - e. mower deck

INSTALLATION OF ENGINE COMPLETE WITH DRIVE PIVOT AND SPROCKET HOUSING

1. Bolt engine to mounting plate. The left rear bolt is installed from the bottom. The other 3 bolts from top. Install belt keeper on two front bolts as illustrated in Figure 4.
2. Torque bolts to 8 lb. ft. (11 Nm).
3. Install exhaust pipe and muffler.
4. Apply anti-seize compound to engine crankshaft.
5. Position engine in mower chassis. Slide pulley on crankshaft as engine is lowered into position.

NOTE: Refer to Service Manual Section 9-50261 for detailed engine service.

TRANSMISSION SERVICE

Remove engine complete with transmission drive pivot and sprocket housing when major repairs are required. Follow the procedure provided in ENGINE SERVICE section of this manual.

Individual components can be removed for service when required and will be described in the following sections of this manual.

REMOVE DRIVE DISC

NOTE: If servicing drive disc or bearings, remove disc before drive pivot.

1. Hold belt securely around pulley to keep from turning.
2. Tap rib on underside of disc with hammer and punch to loosen LEFT HAND thread.

NOTE: This operation may be done with MOWER DECK INSTALLED.

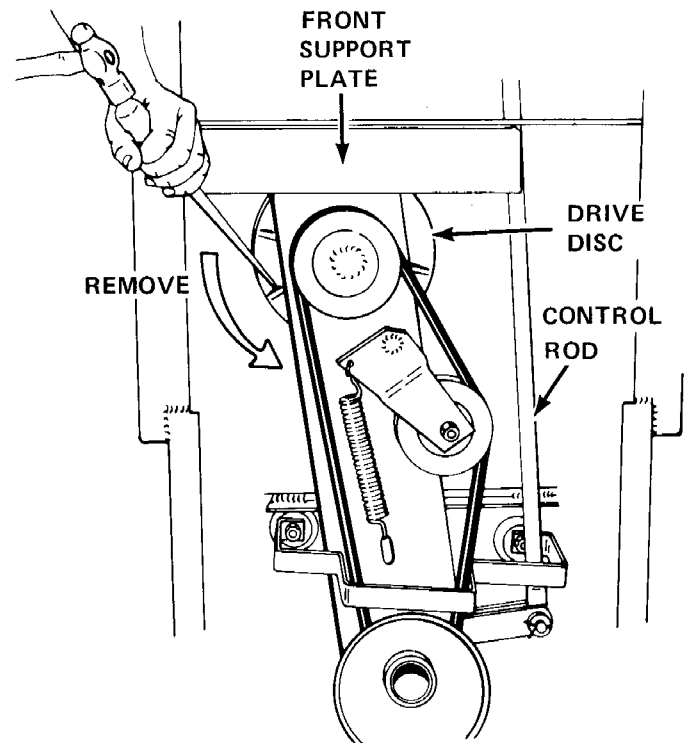


FIGURE 7

12. Remove the four (4) bolts securing the engine mounting plate to chassis.
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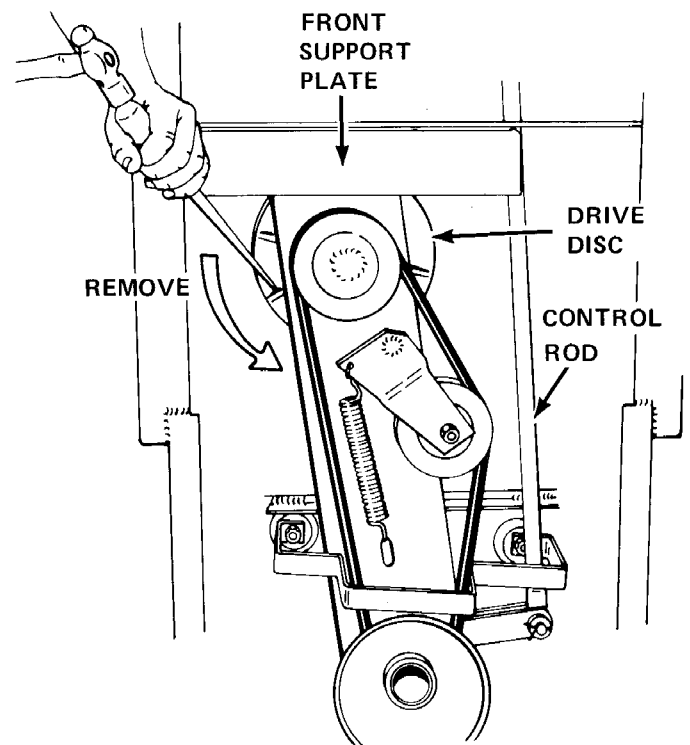


FIGURE 7

REMOVE DRIVE PIVOT

1. Remove mower deck in accordance with DECK REMOVAL AND INSTALLATION section in this manual.
2. Stand mower on end in accordance with STANDING MOWER ON END FOR SERVICE section in this manual.
3. Remove chain guard.
4. Remove final drive chain.
5. Support rear of chassis with 2x4 blocks.
6. Remove rear axle bearings and roll rear axle away.
7. Remove belt.
8. Remove engine pulley.

IMPORTANT: Carefully remove pulley after taking out center bolt. Excessive force will cause pulley to distort.

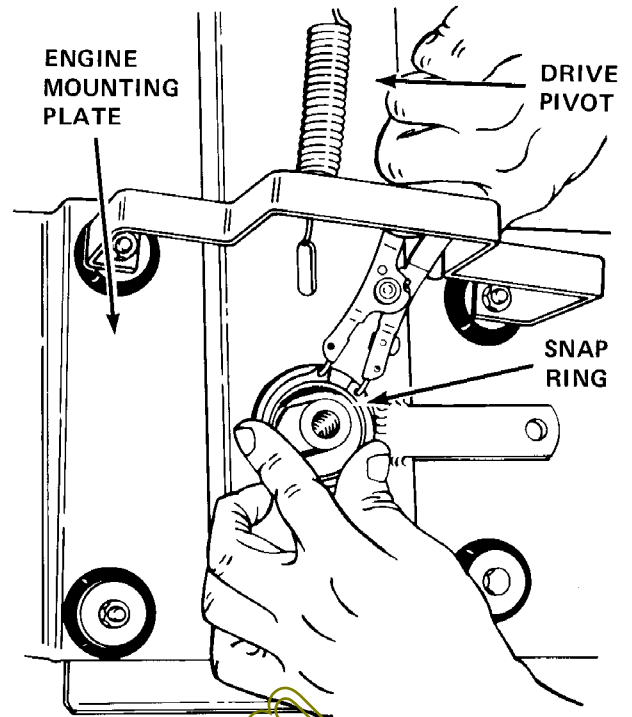


FIGURE 8

9. Remove pivot control rod. See Figure 7.
10. Remove front support plate. See Figure 7.
11. Remove snap ring. See Figure 8.
12. Remove pivot from engine mounting plate.
13. Support pivot arm securely if drive disc shaft or bearings must be replaced. They are press fit. Do not tighten bearing flangette mounting bolts upon reassembly. Adjustments as described in DISC TO WHEEL CENTER-LINE ADJUSTMENT section must be made first.

INSTALL DRIVE PIVOT

1. Apply a light coating of cup grease to the flange bushing.

2. Install pivot to engine mounting plate and secure with snap ring.
3. Install control rod to pivot. Adjust neutral, if necessary as described in TRAVEL CONTROL NEUTRAL ADJUSTMENT section of this manual.
4. Apply anti-seize compound to engine crankshaft and install pulley.
5. Install belt.
6. Install rear axle with spacers between bearings and mower chassis.
7. Install chain with connector link inboard and closed end of link facing forward direction. See Figure 9.

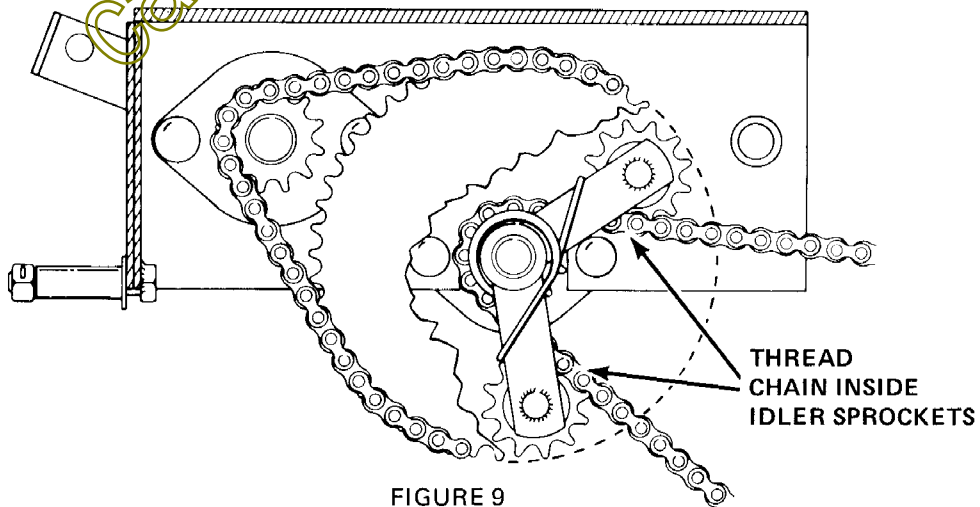


FIGURE 9

8. Install chain guard.
9. Adjust disc-shaft position as described in DISC TO WHEEL CENTER-LINE ADJUSTMENT section of this manual.
10. Install drive disc.

REMOVE SPROCKET HOUSING

1. Determine the direction of rotation of both shafts when the mower is moving in the forward direction.
2. Mark the large sprocket (on intermediate shaft) and rubber wheel with a large arrow as illustrated in Figure 10.
3. Remove final drive chain.
4. Remove clutch link.
5. Remove cotter pin which secures the pivot pin.
6. Early production: pry pivot pin in the outboard direction until it can be pulled out with pliers.
7. Late production: Pull out pivot pin with pliers. Remove sprocket housing from mower chassis.

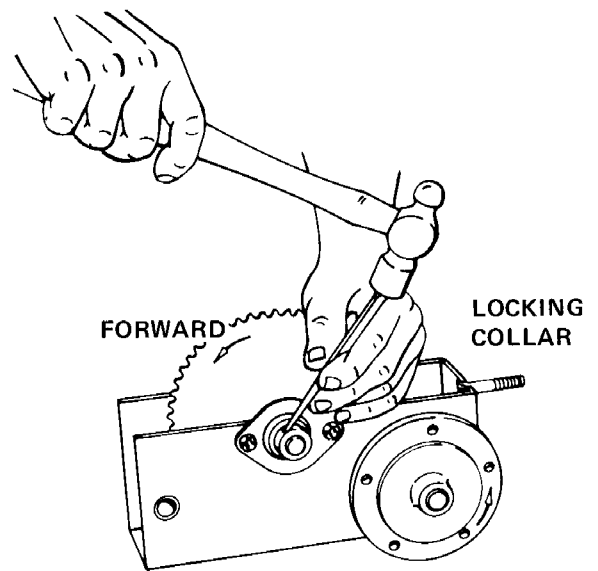


FIGURE 10
TIGHTENING LOCKING COLLAR

3. Release the locking collars by:
 - a. loosening the set screws
 - b. tapping lightly in direction OPPOSITE rotation of shaft as marked with arrow in Step 2 above
4. Remove intermediate chain.
5. Remove bearing flangettes and shafts.

DISASSEMBLE SPROCKET HOUSING

1. Determine the direction of rotation of both shafts when the mower is moving in the forward direction.
2. Mark the large sprocket (on intermediate shaft) and rubber wheel with a large arrow as illustrated in Figure 10.

ASSEMBLE SPROCKET HOUSING

1. Loosely reassemble shafts, bearings and flangettes as shown in Figure 11.

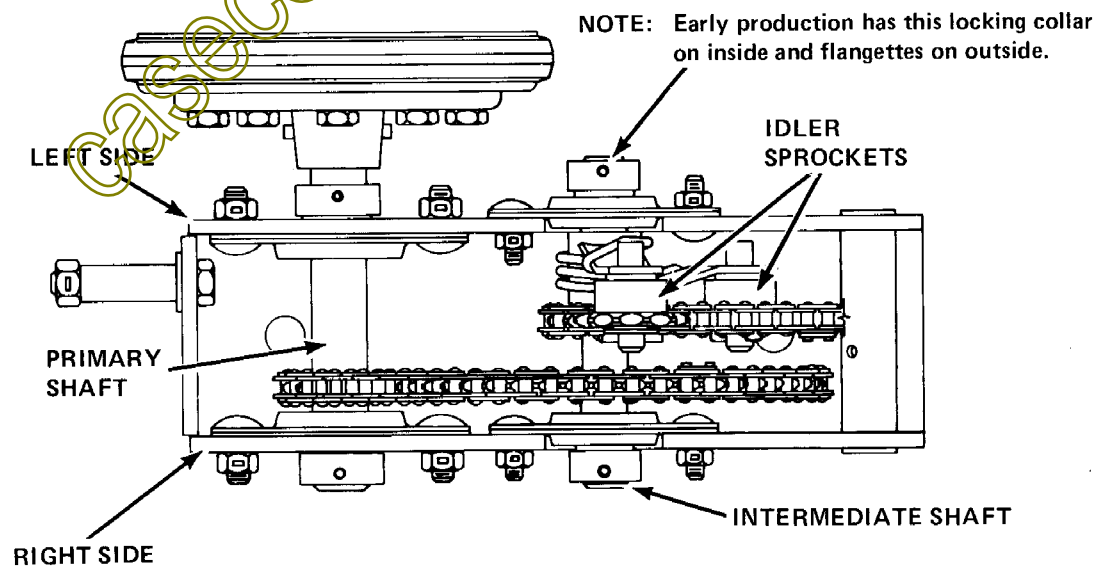
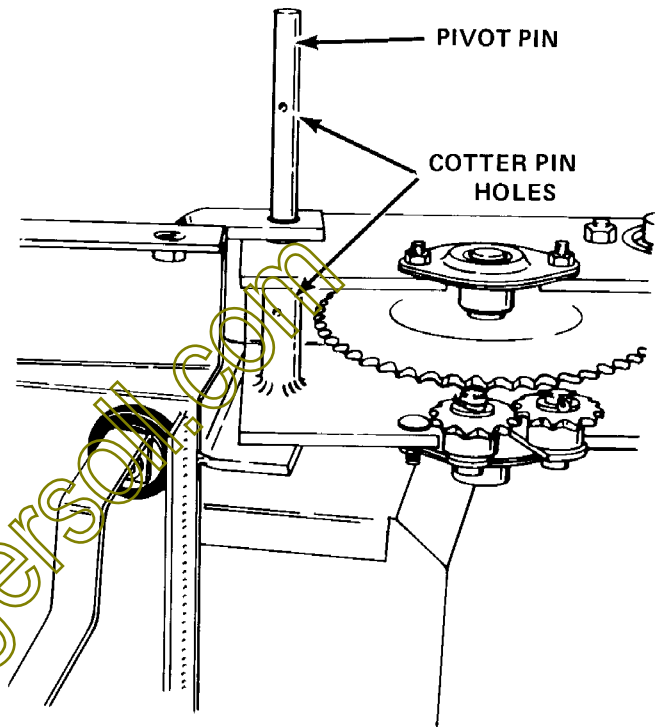
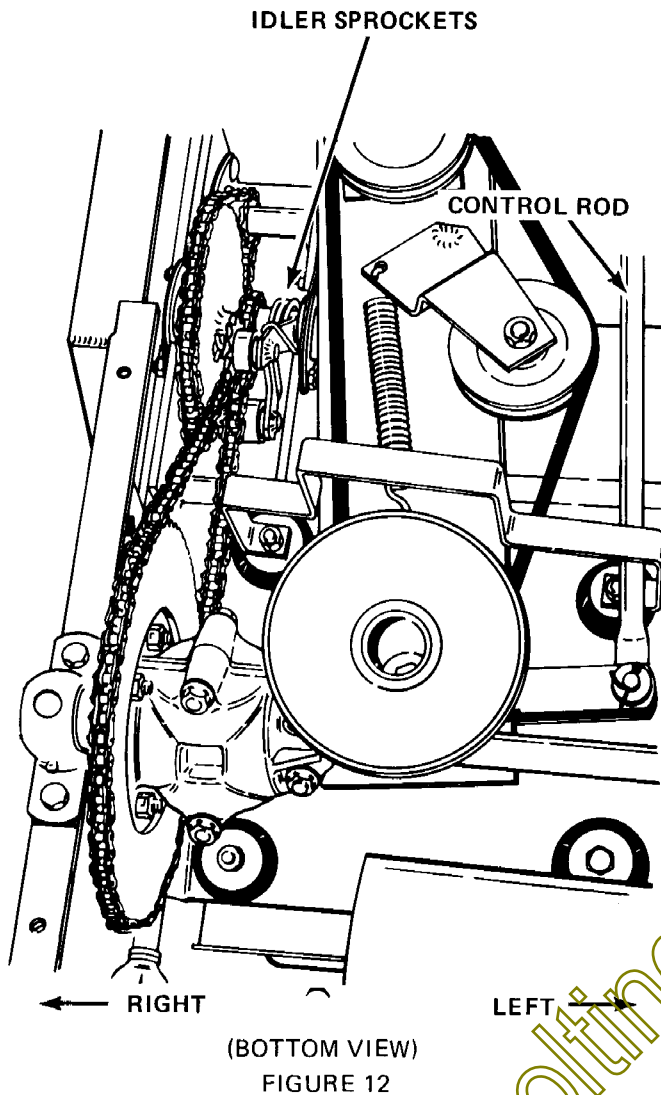


FIGURE 11
(BOTTOM VIEW)

INSTALL SPROCKET HOUSING

1. Position sprocket housing between pivot tabs.
2. Line up cotter pin holes and insert pivot pin. Secure with cotter pin.



2. Assemble intermediate shaft idler sprockets as shown in Figure 11.
3. Position intermediate shaft to the left side (idler sprocket side) of housing. Align primary shaft sprocket to the intermediate shaft sprocket.
4. Position bearings, flangettes, locking collars.
5. Install intermediate drive chain with closed end of connector spring clip facing forward direction of chain travel.
6. Tighten flangettes. Tighten locking collars by:
 - a. tapping lightly in direction SAME AS rotation of shaft when mower is moving in the forward direction. This is in direction of arrows marked in DISASSEMBLE SPROCKET HOUSING section. See Figure 10.
 - b. tighten set screws

3. Connect clutch link. Adjust in accordance with CLUTCH LINK ADJUSTMENT section in this manual.
4. Install final drive chain with connector link plate and spring clip outboard and closed end of spring clip facing forward direction of chain travel. See Figure 12.

TRAVEL CONTROL NEUTRAL ADJUSTMENT

1. Correct adjustment exists when:
 - a. travel control is in neutral detentand
 - b. roller on sprocket housing engages notch on drive pivot. See Figure 14.

2. To adjust:

- a. position roller on sprocket housing in notch on drive pivot (See Figure 14)
- b. loosen ball joint jam nut on forward end of control rod (not pictured)
- c. remove bolt securing ball joint to travel control arm.
- d. position travel control in neutral detent
- e. turn ball joint until holes line up
- f. install bolt
- g. tighten jam nut

NOTE: DO NOT OVERTIGHTEN.

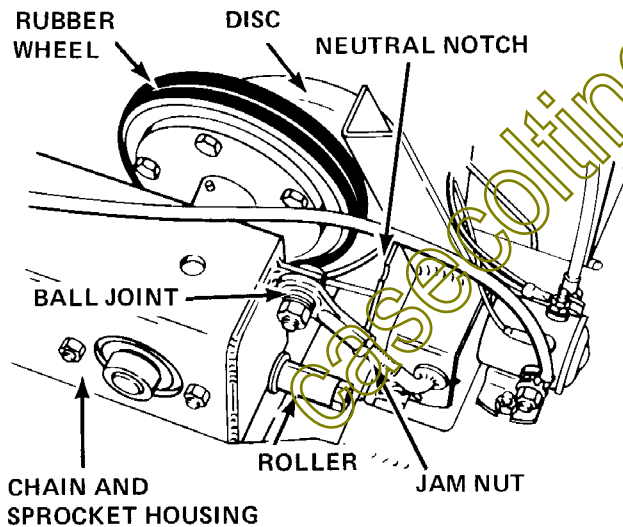
CLUTCH LINK ADJUSTMENT

1. Correct adjustment exists when:

- a. rubber wheel is in contact with disc with clutch pedal released and clutch link is free (that is under neither tension nor compression).

and

- b. rubber wheel lifts clear of disc with clutch-brake pedal depressed halfway. (The second half of pedal travel applies the brake.



(EARLY PRODUCTION)
FIGURE 14

2. To adjust:

- a. loosen ball joint jam nut
- b. remove bolt securing ball joint to tab on sprocket housing
- c. turn ball joint until correct adjustment, as described in step 1 above, is obtained

DISC TO WHEEL CENTER-LINE ADJUSTMENT

1. Correct adjustment exists:

- a. when the travel control moves with minimal effort and
- b. remains in the selected speed range when mower is driven

BALL JOINT

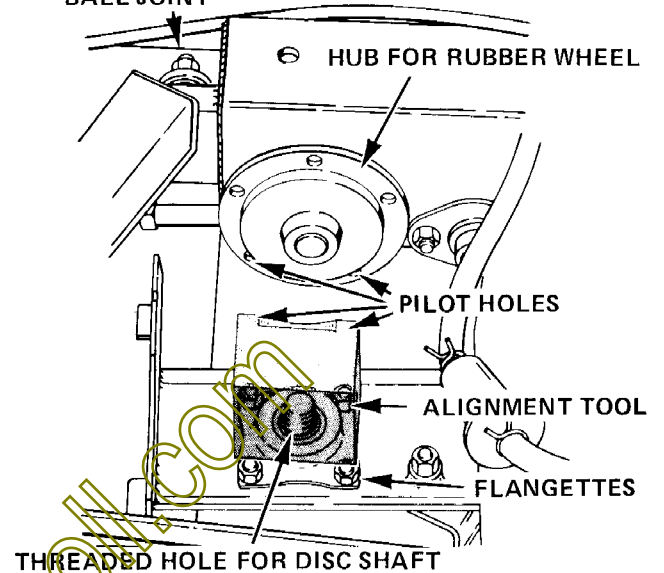


FIGURE 15

2. To adjust:

- a. remove drive disc
- b. remove rubber wheel
- c. remove belt from disc pulley
- d. remove ball joint from chain and sprocket housing
- e. loosen disc bearing flangettes
- f. thread alignment tool on disc shaft. Position tool as shown, so pilot holes face rubber wheel hub
- g. move bearing flangettes slightly, as required, to allow bolts (supplied with tool) to be installed through two holes in hub and into tool. Tighten bolts lightly.
- h. tighten bearing flangette bolts
- i. remove tool
- j. install disc, wheel and belt

The center line of the drive disc must be from 1/16 to 3/32 inch (1.6 to 2.3 mm) forward of the centerline of the rubber wheel.

STEERING

REMOVE AND INSTALL STEERING SHAFT

1. Remove pin securing steering wheel to shaft. Support hub when driving pin out to prevent breaking bushing.
2. Remove screws from tower crown.
3. Remove steering sector gear pivot pin and disengage sector gear from steering pinion gear.
4. Remove lower end of shaft from bushing and pull through from bottom.
5. Reverse the above procedure for installation.

REMOVE AND INSTALL SECTOR GEAR

1. Remove bolts securing inboard tie rod ends to sector gear.
2. Remove cotter pin and sector gear pivot pin.
3. Remove sector gear.
4. Reverse the above procedure for installation.

TOE-IN ADJUSTMENT

1. Locate the riding mower on a hard level surface preferably concrete. Place front wheels in a straight ahead position.
2. Make sure the front tire pressures are equal.
3. The front tires should show a mold part-line which coincides with the centerline of the tire. If the centerline of the tire is not readily visible, then the wheel can be raised off the ground, spun and marked at the approximate centerline location.
4. Measure the distance between the tire center lines or the chalk marks.
5. Loosen both jam nuts on each drag link and turn rods equally.
6. Turn the tie rod in or out of the ball joints as required. Retighten the jam nuts when correct toe in is obtained. One ball joint has left hand threads and the other right hand so it is unnecessary to disconnect it from the king pin lugs. Turning the joints off the tie rod increases the toe in. Turning the joints on the tie rod decreases the toe in.

MEASUREMENT "A" MUST BE 1/8 TO 3/8-INCH (3.2 mm TO 9.5 mm) LESS THAN MEASUREMENT B. BOTH MEASUREMENTS - FRONT AND REAR MUST BE TAKEN AT SPINDLE HEIGHT ABOVE THE FLOOR.

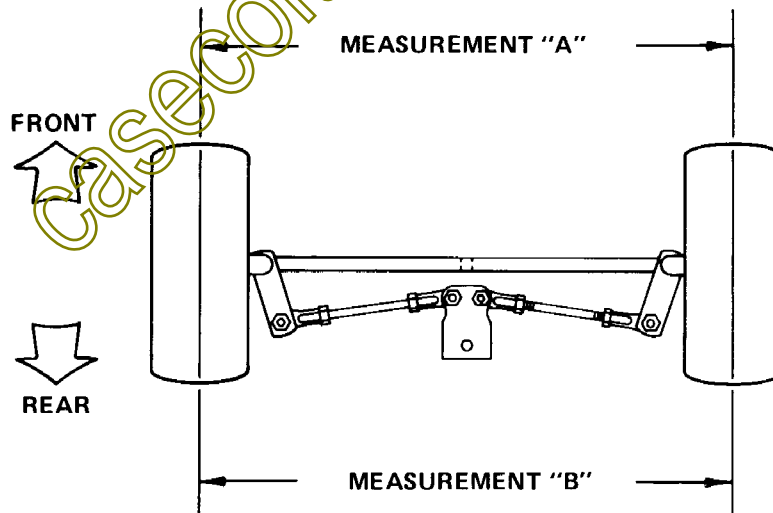


FIGURE 16

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