



# Service Kit 753-05746

Date: 10/03/2007

Subject: Steering Shaft and Steering Gear Assembly

Models Affected: 700 Series Lawn Tractors

REFERENCE: S/A MTD-072

**Read through and understand these instructions completely before proceeding with repair.**

**PURPOSE:** To address complaints of “ratcheting” of the steering gears. An individual tooth on the gear at the bottom of the Steering Shaft may wear and cause it to skip a tooth with the mating Steering Gear when turning the steering wheel. When this occurs, a momentary “ratcheting” sound is heard and felt in the steering wheel.

**NOTE:** These materials are prepared for use by trained technicians who are experienced in the service and repair of equipment of the kind described in this publication, and are not intended for use by untrained or inexperienced individuals. Such individuals should seek the assistance of an authorized service technician or dealer.

**NOTE:** Save this Instruction Sheet. Refer to it when ordering replacement parts.

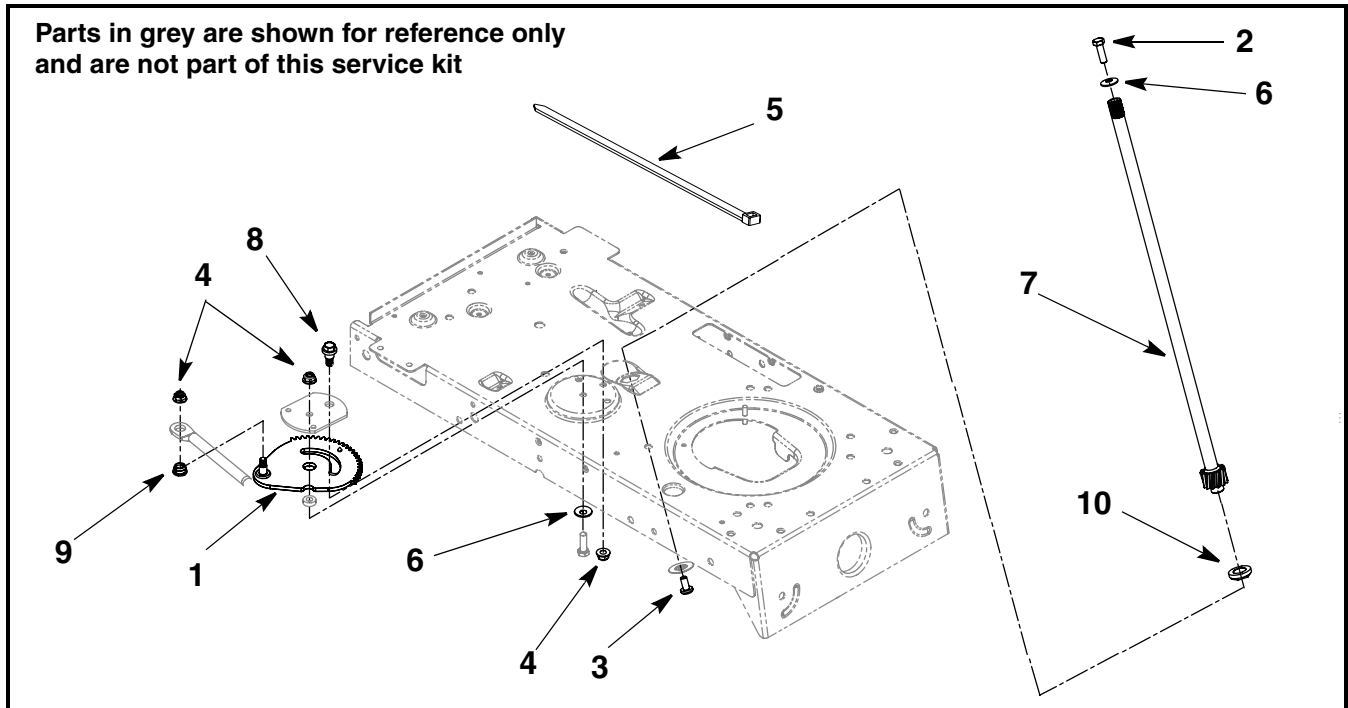


FIGURE 1

## Service Kit Contents

(See Figure 1)

\* - Not Available Separately

ITEM NO.	PART NUMBER	QTY	DESCRIPTION
1	617-04024	1	GEAR ASSEMBLY: STEERING
2	710-0643	1	SCREW: 5/16"-18 x 1.0: GR5: LOCK
3	710-1309	1	SCREW:MACH:5/16"-18 x .75:PANPHI:LOCK
4	712-04063	3	NUT: FLANGE LOCK: 5/16"-18: GRF
5	726-0230	1	CABLE TIE (FUEL TANK)
6	736-0242	2	WASHER: BELL: .340 x .872 x .060
7	738-0919A	1	SHAFT: STEERING: 5/8" SPLINE
8	738-04141	1	SCREW: SHOULDER: 5/16"-18: LOCK
9	741-0475	1	BUSHING: PLASTIC: .380" I.D.
10	741-04124	1	BEARING: FLANGE: HEX: 5/8"
11	*	1	THIS INSTRUCTION SHEET

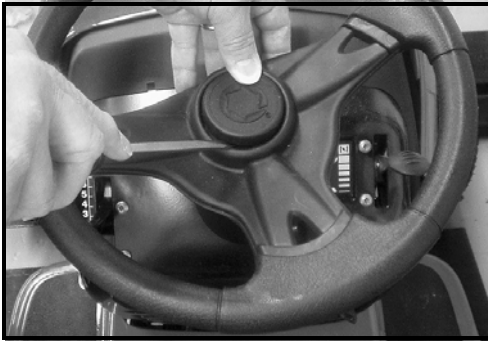
**Pre-Service Preparation:**

**NOTE:** All references to left, right, front and rear of the tractor are determined by sitting in the operator's position and facing the direction of forward travel.

1. Place the tractor on a flat and level surface, turn off engine, remove ignition key, set parking brake ON and set the front wheels so that they are facing straight forward.
2. Allow engine and muffler to cool before proceeding.
3. Disconnect the spark plug wire from the spark plug and ground to the engine block.
4. Refer to the Operator's Manual, "Maintaining Your Lawn Tractor" section, "Cutting Deck Removal" and remove the deck from under the tractor.

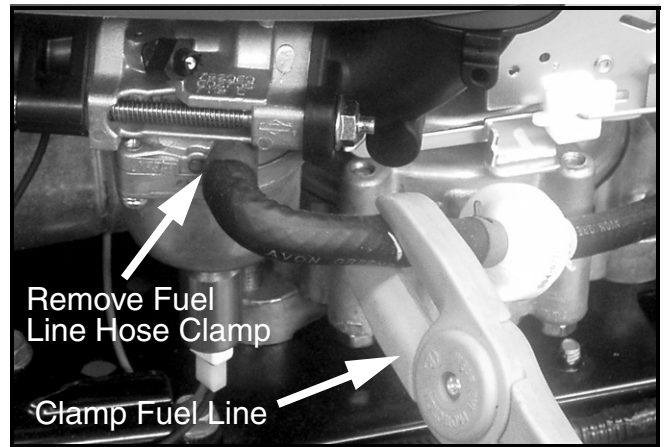
**Steering Shaft and Steering Gear Assembly Removal:**

5. Using a flat blade screw driver, pry the steering wheel cap from the center of the steering wheel. See Figure 2.



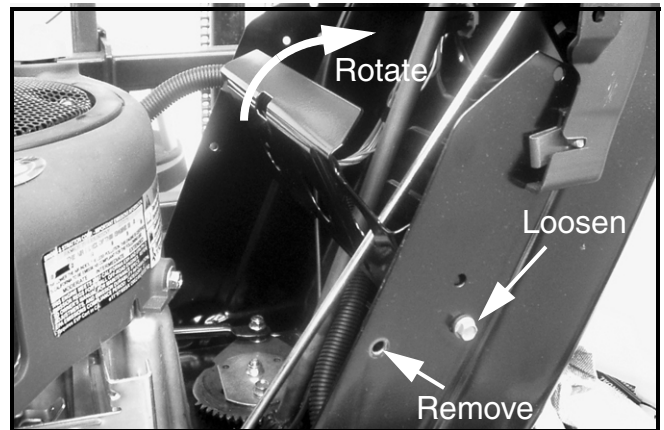
**FIGURE 2**

6. Using a 1/2" socket, extension and ratchet, remove and discard the hex head screw and bell washer securing the steering wheel to the steering shaft.
7. Raise the hood. There is no need to remove the hood.
8. Clamp the fuel line at the short fuel line between the fuel line filter and carburetor. With a pair of hose clamp pliers, remove the fuel line hose clamp from at the carburetor fitting. See Figure 3.



**FIGURE 3**

9. Using an appropriate fuel container, remove the fuel line clamp and drain the fuel tank through the fuel line.
10. With a pair of side cutters, cut the cable tie securing the fuel tank to the fuel tank support bracket. Carefully remove the fuel tank from the tractor guiding the fuel line through the support bracket hole.
11. Using a 3/8" socket and ratchet, remove the two (2) forward most screws (one on each side of the dash assembly) securing the fuel tank support bracket to the dash assembly. See Figure 4.



**FIGURE 4**

12. Loosen the two rear most screws just enough to rotate the fuel tank support bracket. Retighten the two rear most screws to hold bracket in position. See Figure 4.

13. From the back side of the dash assembly, using a 3/8" socket and ratchet, remove the three screws retaining the plastic steering support to the dash assembly. Slide the steering support up off of the steering shaft. See Figure 5.

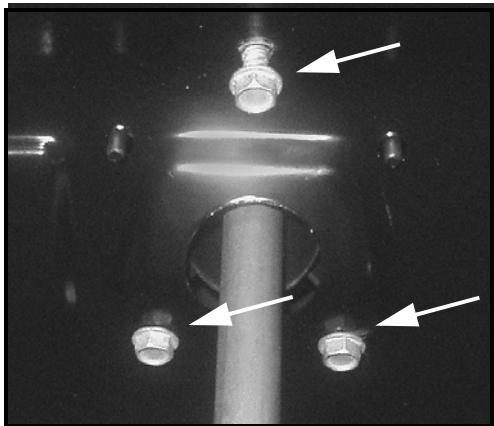


FIGURE 5

14. Raise the tractor to gain access to the underside of the frame. Securely position jack stands under the frame and block the wheels to ensure the tractor cannot roll off the jack stands.

15. From the underside of the frame, using a large Phillips bit, remove the pan head phillips drive screw and cap from the end of the steering shaft. See Figure 6.

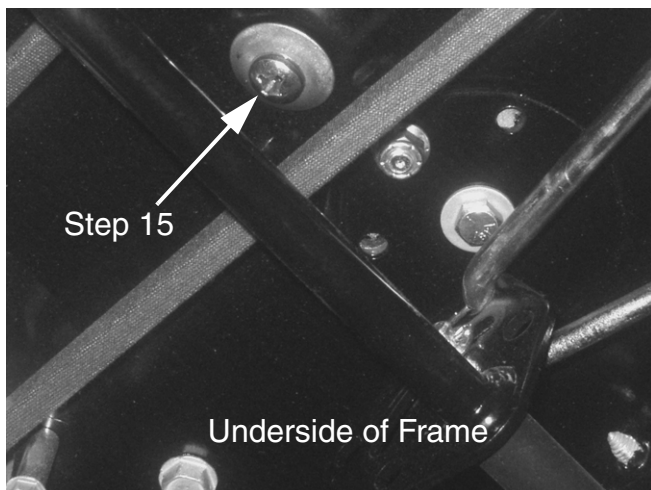


FIGURE 6

16. From the top of the dash assembly, lift the steering shaft up and out of the dash assembly and discard. Remove and discard the hex flange bearing from the frame.

**NOTE:** The hex flange bearing may be stuck to the bottom of the steering shaft.

17. Using a 1/2" socket and ratchet, remove the hex flange lock nut retaining the steering drag link to the steering gear assembly and slip the steering drag link off of the steering gear assembly stud. See Figure 7.

18. Discard the plastic bushing at the end of the steering drag link.

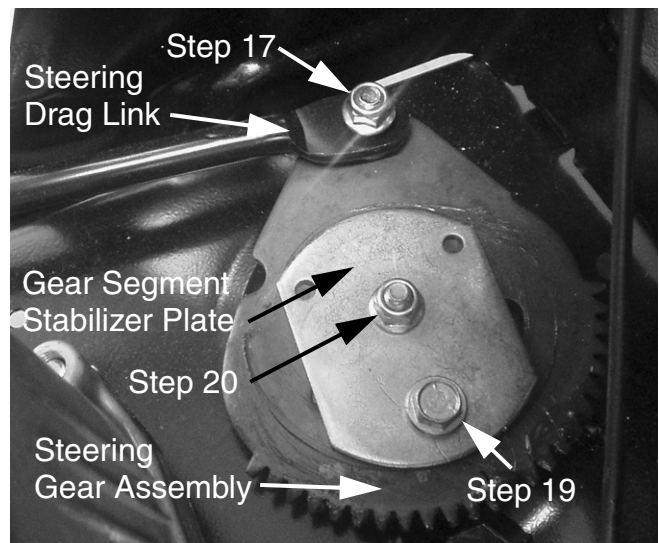


FIGURE 7

19. Using a 1/2" socket and ratchet and a 1/2" box/open end wrench, remove and discard the shoulder screw and hex flange lock nut shown in Figures 7 and 8.

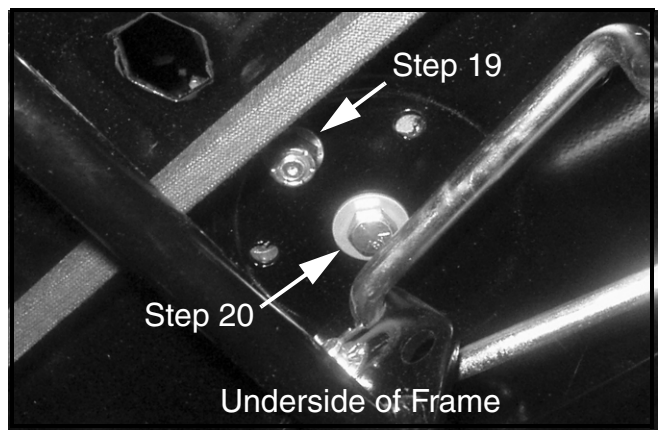


FIGURE 8

20. Using a 1/2" socket and ratchet and a 1/2" box/open end wrench remove the screw, bell washer, and flange lock nut shown in Figures 7 and 8. Discard the flange lock nut only.

21. Remove the gear segment stabilizer plate and steering gear assembly from the frame. Retain the spacer from steering gear assembly and gear segment stabilizer plate. Discard the steering gear assembly only.

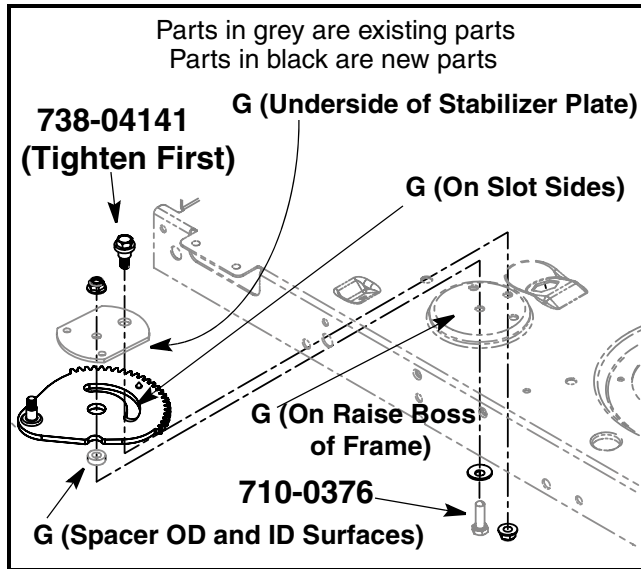
See Page 4 for service kit installation.

**Installation Instructions:**

**NOTE:** Apply a liberal amount of a lithium grease to those surfaces marked with a "G" in Figure 9 before assembly.

22. Install the new Steering Gear Assembly, Item 1, onto the frame using the new Shoulder Screw, Item 8, two Flange Lock Nuts, Item 4, Bell Washer, Item 6 and the existing screw as shown in Figure 9. Finger start the mounting hardware but do not tighten screws and nuts at this point.

**NOTE:** Ensure that the small spacer is in the center hole of the steering gear assembly.



**FIGURE 9**

23. **IMPORTANT** - Using a 1/2" socket and ratchet and a 1/2" box/open end wrench, tighten screw 738-04141 **BEFORE** tightening screw 710-0376. See Figure 9.

24. Place the new Plastic Bushing, Item 9, onto the Steering Gear Assembly stud.

25. Carefully place the drag link onto the steering gear assembly stud.

26. Install and tighten the remaining Flange Lock Nut, Item 4, onto the steering gear assembly stud.

27. From the top of the frame, seat the Hex Flange Bearing, Item 10, into the hex hole in the frame.

28. Apply a small amount of lithium grease on the top and bore surfaces of the hex flange bearing.

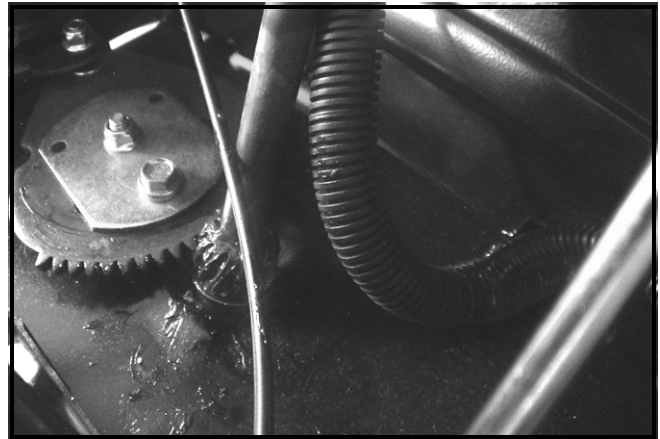
29. On the Steering Shaft, Item 7, apply a liberal coating of lithium grease onto the helix gear and the end of the shaft that sets into the hex flange bearing.

30. **IMPORTANT** - Align the front wheels so that they are pointing straight forward.

31. From the top of the dash assembly, slid the steering shaft through the dash hole and down behind the fuel

tank support bracket until the helix gear is near the steering gear assembly.

**NOTE:** Ensure that the wire harness is between the steering shaft and dash assembly and that the throttle cable is between the steering shaft and engine. See Figure 10.



**FIGURE 10**

32. Holding the steering gear assembly in a position so that the front wheels are pointing straight forward, rotate the steering shaft to align the helix gear with the gear teeth on the steering gear assembly. Set the steering shaft end into the hex flange bushing.

33. Install the plastic steering support onto the steering shaft and secure to the dash assembly with the three screws removed in Step 13. Refer to Figure 5.

34. Ensure that the front wheels are pointing straight forward. Re-install the steering wheel onto the steering shaft spline. Finger start, but do not tighten, the new 5/16"-18 x 1.0 Lock Screw, Item 2, and Bell Washer, Item 6.

**NOTE:** The center spoke of the steering wheel should be at 6:00 o'clock when the front wheels are pointing straight forward.

35. Have an assistant hold the steering wheel down into the hex flange bushing and from rotating. From the underside of the frame, using a large Phillips bit, install the new 5/16"-18 x .75 Pan Head Phillips Drive Screw, Item 3, and existing cap onto the end of the steering shaft. Refer Figure 6. **The screw must be torqued to 17-20 Ft.-Lbs.**

36. Using a 1/2" socket, extension and ratchet, tighten the steering wheel retaining screw with bell washer installed in Step 34. Replace the steering wheel cap.

37. Apply a liberal coating of lithium grease on the steering gear assembly teeth.

38. Secure the fuel tank support bracket and fuel tank using the new Cable Tie, Item 5. Reconnect the fuel line to the carburetor fitting.

39. This completes the installation of this service kit.