

# Transmission Removal and Replacement Instructions



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## !! Caution !!

Ensure mower is on a level surface

Place wheel chock on front wheels to prevent movement

### Contents of Kit

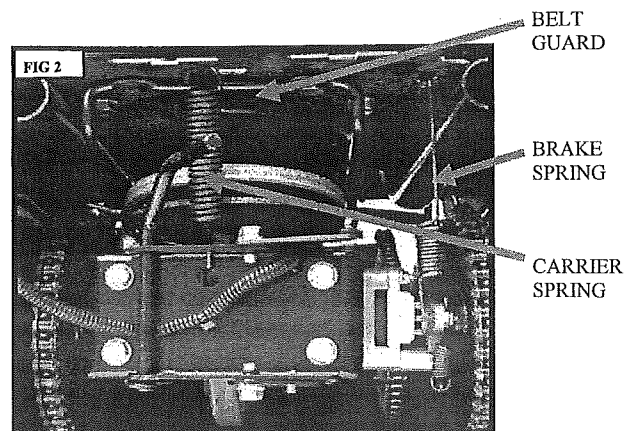
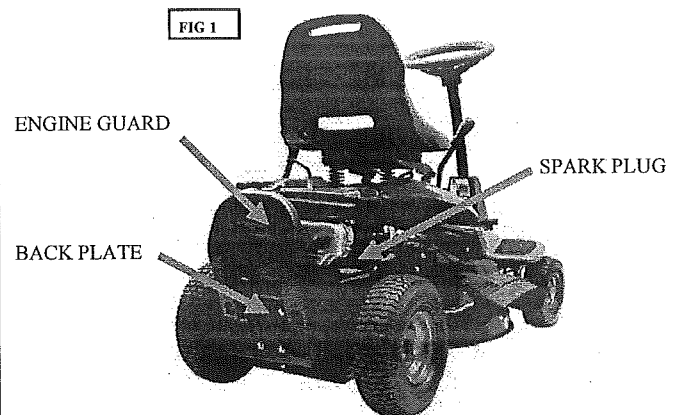
Qty	Part#	Description
(1)	-	Replacement Friction Drive Assembly
(1)	421076	Brake Cable Cotter Pin
(17)	17000512	5/16-18 X ¾ Bolt
(1)	166002	Serrated Washer
(6)	17490508	5/16-18 X ½ Bolt
(1)	165492	5/16-18 X ½ Shoulder Bolt
(3)	437051	Harness wire ties

### Required Tools:

½ inch socket or wrench  
Spring puller  
Needle nose pliers  
Slip pliers  
Anti-seize

1. Release brake
2. (FIG 1) IMPORTANT: Disconnect spark plug wire from spark plug.
3. (FIG 1) Remove engine guard by removing (2) bolts from rear of unit using ½ inch socket or wrench and pull up on guard to disengage tabs from engine plate.
4. (FIG 1) Remove back plate by removing (4) bolts (2 on left hand side, 2 on right hand side) from back plate using ½ inch socket or wrench.
5. (FIG 2) Release the carrier spring and brake spring using a spring puller or needle nose pliers by disengaging the springs from the top of the engine plate.
6. (FIG 2) Remove belt guard from underside of engine plate using ½ inch socket or wrench.

NOTE: These instructions refer to right and left hand side as orientated from sitting in the operators seat.



7. Remove belt from engine pulley and tuck forward out of way

8. (FIG 3) Unbolt motion control lever by removing two lower attachments using  $\frac{1}{2}$  inch socket or wrench.

9. (FIG 4) Disconnect electrical harness at three connection points and pull (2) clips from engine plate.

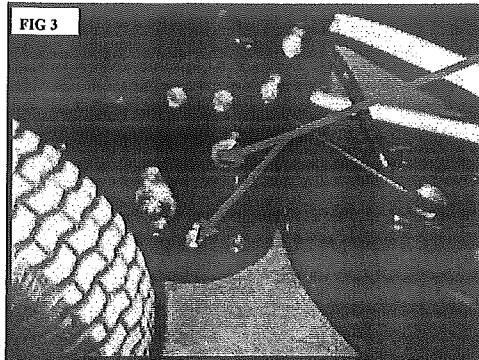
10. (FIG 5) Remove hair pin clip from rear carrier brace holding the shift arm.

11. (FIG 5) Remove (4) bolts holding the rear carrier brace and shift arm in place using  $\frac{1}{2}$  inch socket or wrench. Remove switch from rear carrier brace by first removing switch from brace then separate switch and remove. Place wiring harness on side of chassis allowing for engine removal.

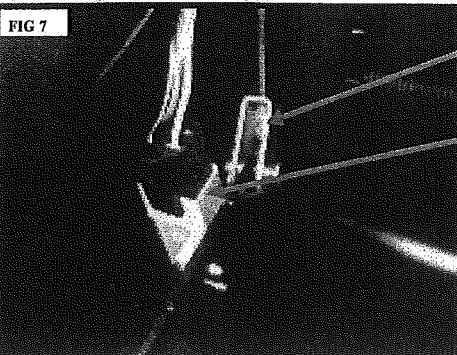
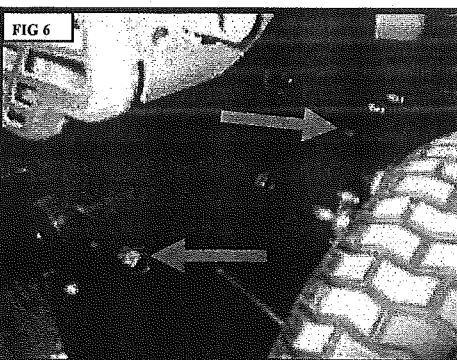
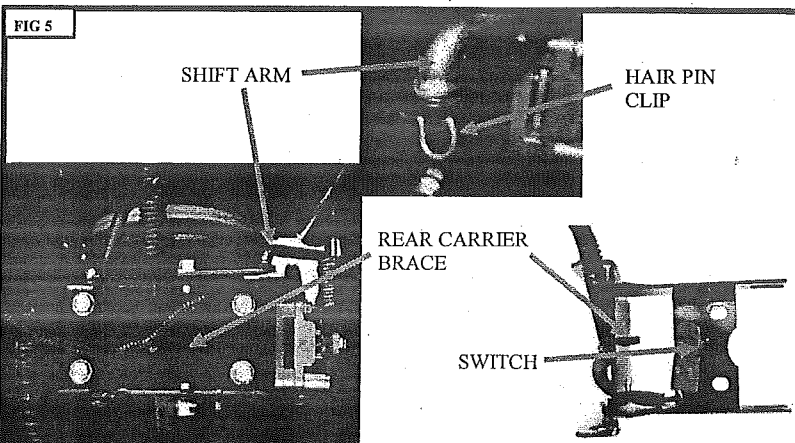
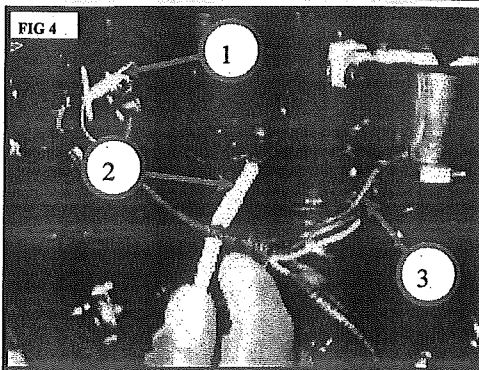
12. (FIG 6) Remove (2) bolts, front and back, from each side that secure the engine plate to chassis using  $\frac{1}{2}$  inch socket or wrench.

13. Lift engine and plate assembly off of chassis and set aside, place engine in upright position to prevent oil or gas spillage. CAUTION - TAKE CARE NOT TO DAMAGE ENGINE CRANK-SHAFT OR SHEAVE.

14. (FIG 7) At front left of the transaxle, remove the harness connector from the brake/clutch interlock switch then remove the brake cable from transmission.



MOTION CONTROL  
LEVER ATTACHMENTS



BRAKE CABLE  
CONNECTION

HARNESS  
CONNECTOR

15. (FIG 8) Move mower deck to lowest position and remove (2) bolts on each side holding the mower lift assembly to the chassis. Rotate lift assembly forward and out of the way.

16. (FIG 9) Remove (1) bolt on each side holding chassis to transaxle assembly using  $\frac{1}{2}$  inch socket or wrench. Slide transaxle back and away from chassis, lay chassis on ground.

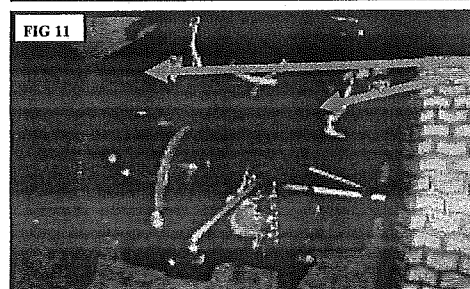
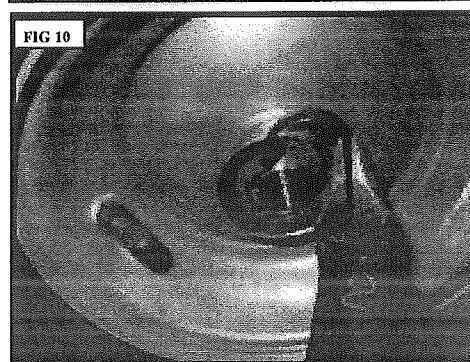
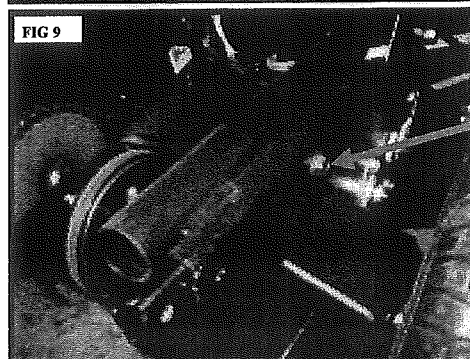
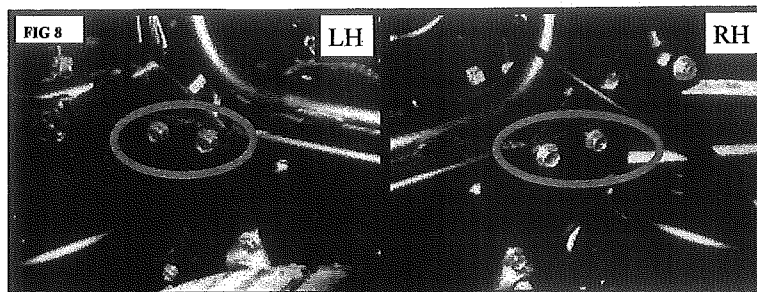
17. (FIG 10) Remove the center cap, then using needle nose pliers remove the e-clip, then remove the washer and slide the wheel off the shaft. Remove the axle key and the inside washer.

18. Install inside washers onto new axles, apply anti-seize to shafts, slide wheel assemblies onto shaft, line up and reinstall key, then outer washer, then snap ring, and finally the cap.

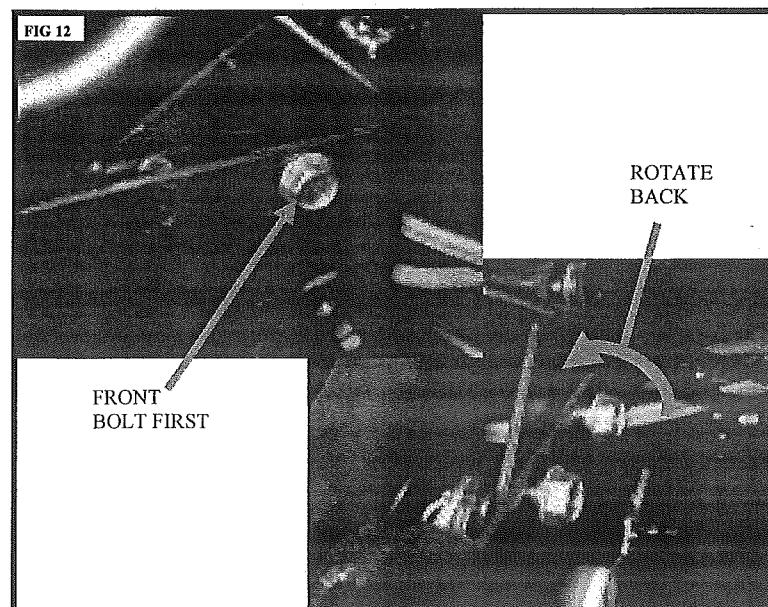
19. (FIG 11) Lift chassis from rear and slide new transaxle in place, line up and attach at center hole location with (2) 5/16-18 X  $\frac{3}{4}$  bolts, one on each side, using  $\frac{1}{2}$  inch socket or wrench.

20. (FIG 12) Install mower lift assembly back onto new transaxle using (2) 5/16-18 X  $\frac{1}{2}$  bolts on right hand side and (2) 5/16-18 X  $\frac{3}{4}$  bolts on left hand side.

TIP: Move the assembly back and into position, then install the front two bolts loosely and rotate the lift assembly back to install the rear bolts.



ATTACH CENTER  
FASTENERS ONLY  
AT THIS STEP





21. (FIG 13) Install the harness to the brake/clutch interlock switch and attach brake cable using new cotter pin.

22. (FIG 14) Remove hair pin clip from carrier brace and disconnect shift arm from new transaxle

23. (FIG 15) Remove (4) 5/16-18 X ½ bolts from rear of new transaxle holding the rear carrier brace and shift arm in place.

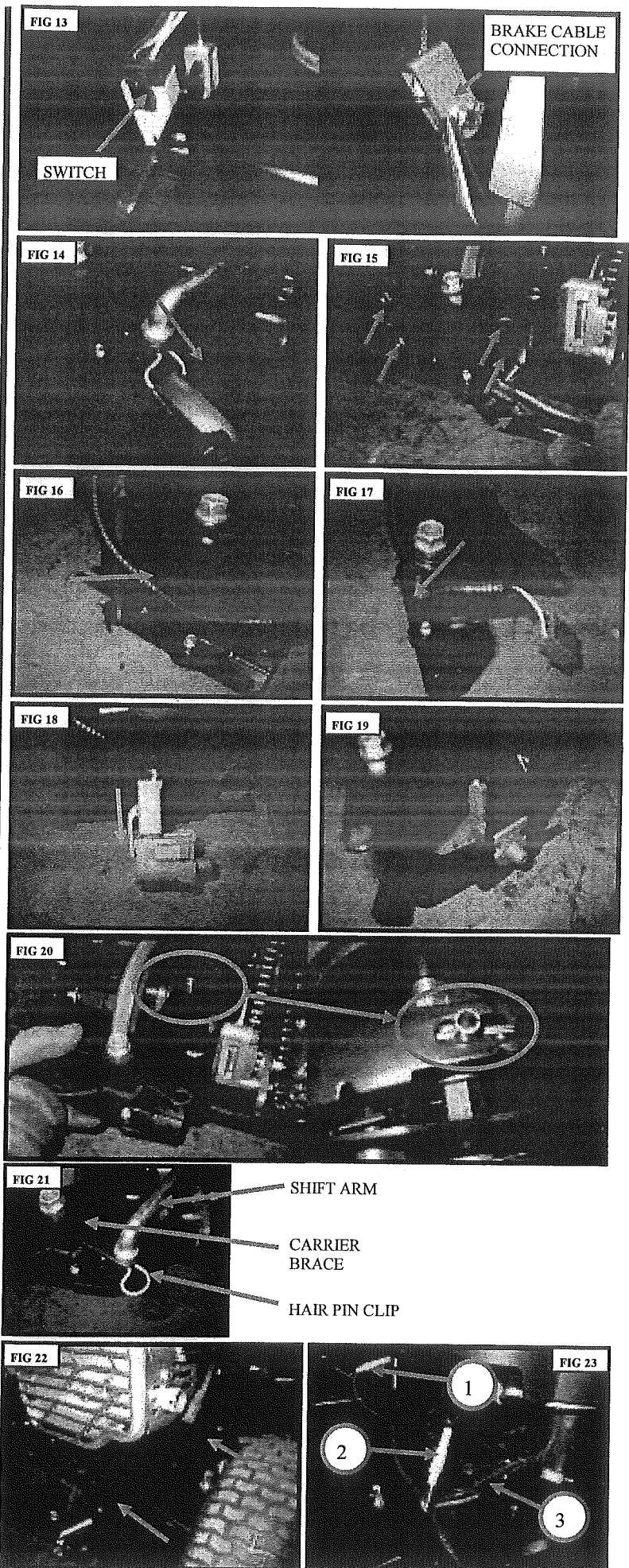
24. Install switch from old wire harness in new carrier brace by first clipping the wire in place (FIG 16), fold parts together and route harness through slot (FIG 17), connect the switch (FIG 18), then install switch (FIG 19).

25. (FIG 20) Reattach carrier brace to rear of transaxle using (4) 5/16-18 X ½ bolts ensuring carrier is engaged to the shifting mechanism on friction wheel.

26. (FIG 21) Reattach shift arm to carrier brace and install hair pin clip.

27. (FIG 22) Place engine on top of chassis and transaxle, muffler to the rear. Install (4) 5/16-18 X ¾ bolts, two on each side.

28. (FIG 23) Connect electrical harness to engine, secure harness to engine plate. New wire clips are provided in case any were damaged during removal.



29. (FIG 24) Route belt to engine sheave, engage clutch to put tension on belt and secure belt guard to bottom of engine plate using (2) 5/16-18 X  $\frac{3}{4}$  bolts.

30. Attach motion control lever to trans-axle through opening in fender. Attach lower 5/16-18 X  $\frac{1}{2}$  shoulder bolt first (FIG 25), from the rear of unit slide the friction wheel assembly to the right side of hex shaft (FIG 26), move the motion control lever to the reverse position (FIG 27), then install the serrated washer and 5/16-18 X  $\frac{3}{4}$  bolt (FIG 28).

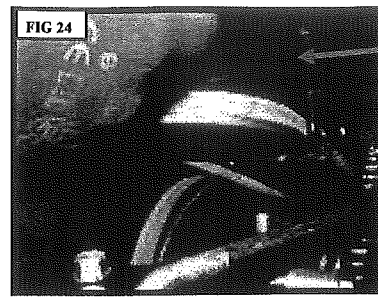
31. (FIG 29) Install carrier spring by first inserting short end into carrier brace, then grasp spring using a spring puller or needle nose pliers through slot in engine plate, pull spring up and engage in plate. note orientation shown in picture.

32. (FIG 30) Install brake spring to brake arm and attach to engine plate using a spring puller or needle nose pliers.

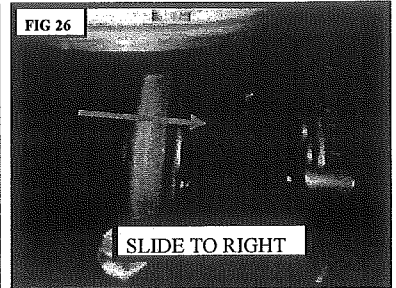
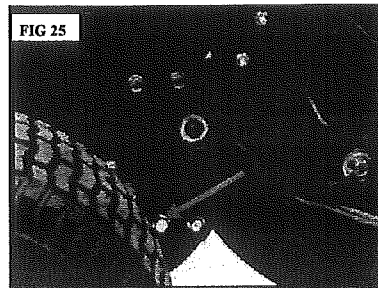
33. Install rear engine plate using (4) 5/16-18 X  $\frac{3}{4}$  bolts.

34. (FIG 31) Install engine guard by engaging tabs into engine plate first, than attach to rear plate with (2) 5/16-18 X  $\frac{3}{4}$  bolts.

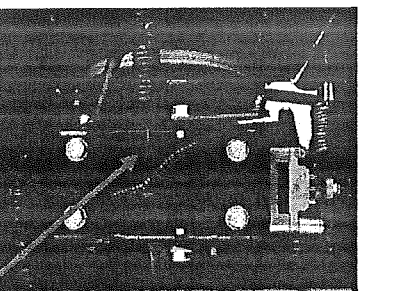
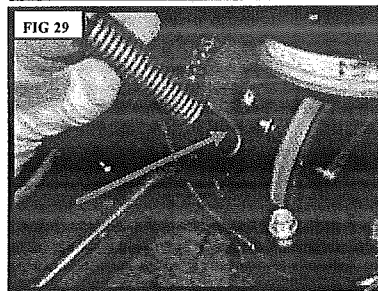
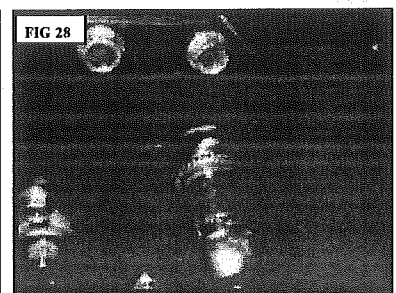
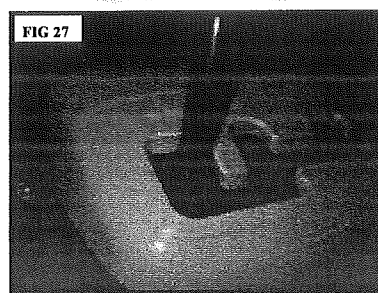
35. Install spark plug wire and test drive unit.



BELT KEEPER



SLIDE TO RIGHT



CARRIER SPRING  
LONG END DOWN

HOLE IN ENGINE  
PLATE

BRAKE SPRING SHORT END  
DOWN, HOOK IN REAR  
HOLE OF BRAKE ARM

