

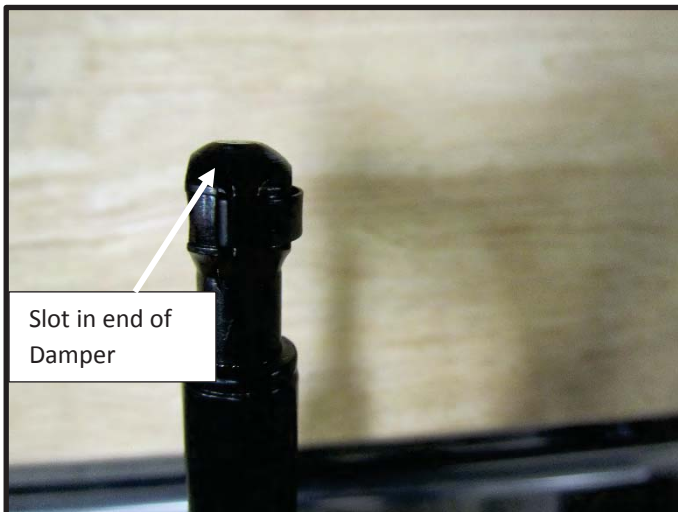
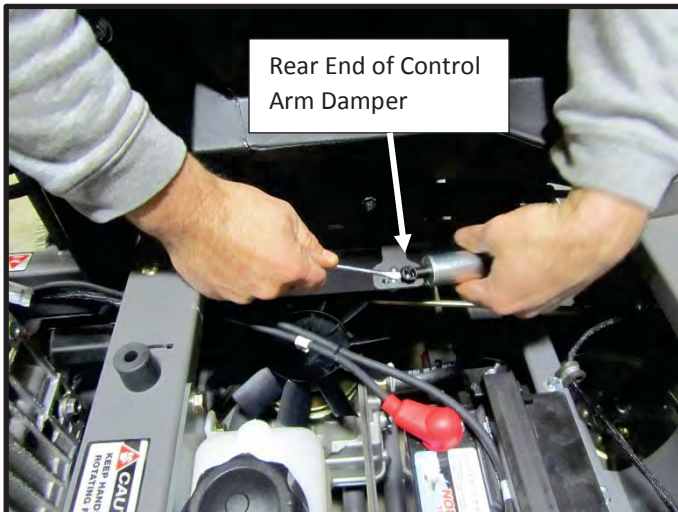
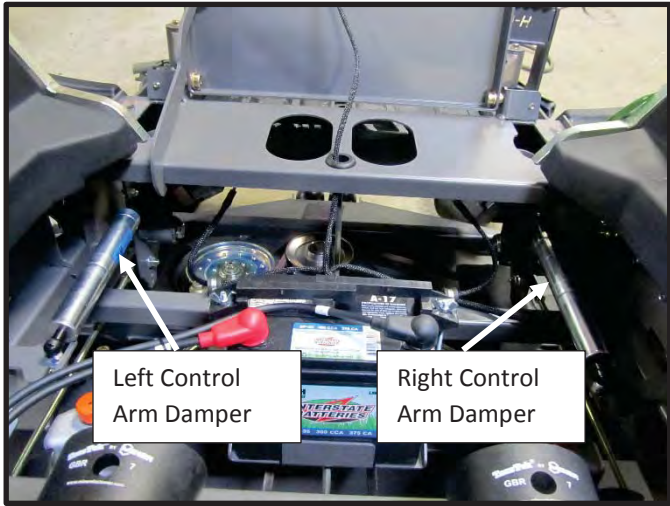
Spartan Mowers
How To Procedures
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Replacing Control Arm Dampers – Spartan Mower RT/SRT Series



Section 1 – Replacing Control Arm Dampers



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the Control Arm Dampers.

1. For access lift the seat forward and locate the 2 control arm dampers on each side.

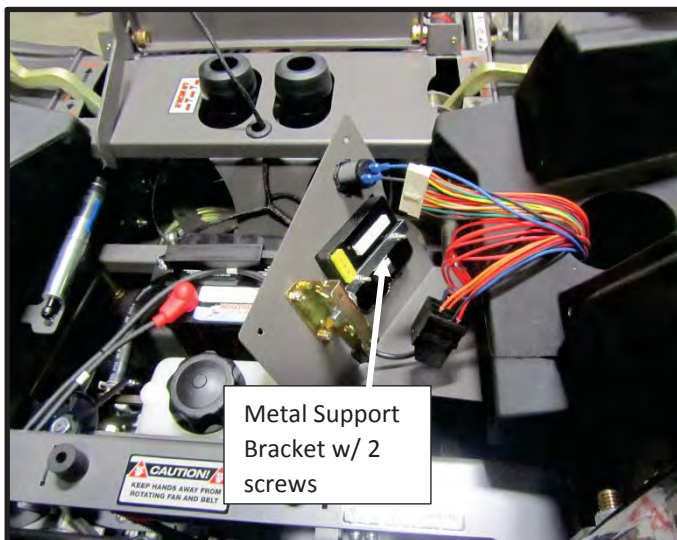
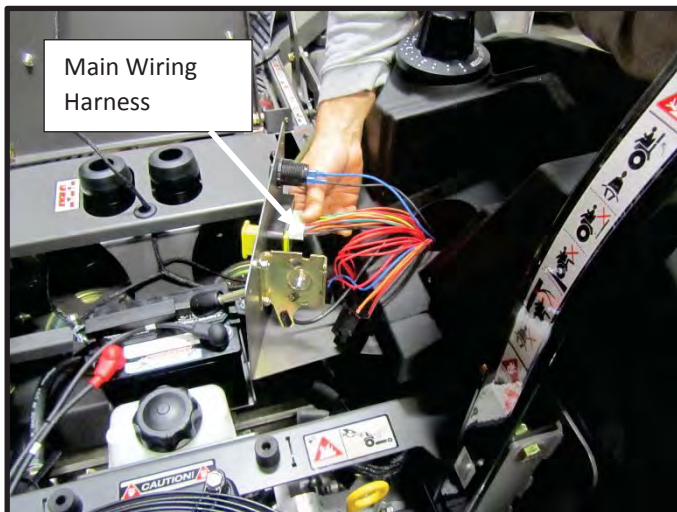
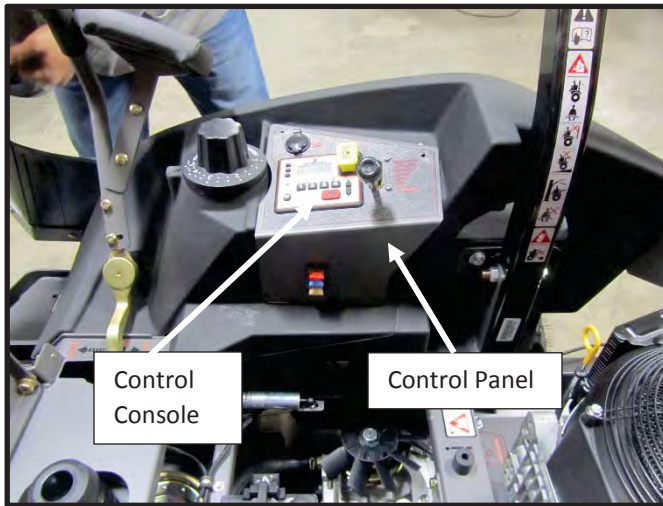
Note: Each damper is attached to 2 studs. The front stud is attached to the drive arm bracket and the back stud is attached to the frame.

2. Using a small straight screw driver place in the slot at rear end of control arm damper and pry up retainer clip to release the rear end.
3. Use the same technique on the front end of the control arm damper to release it from the drive arm bracket.
4. Replace with a new control arm damper as specified in the parts manual by first placing the front end on the drive arm stud and rolling it on to snap it in place.
5. Repeat with rear end of damper.
6. Repeat this procedure for the control arm damper on the other side.

Replacing Control Console – Spartan Mower RT/SRT Series



Section 1 – Replacing Control Console



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the Control Console.

1. For easier access lift the seat forward and locate the control console on the driver's right hand side.
2. Using a 5/32" allen wrench remove the 4 bolts and lock washers (2 on the side and 2 on the top) holding the control panel in place.
3. Unplug the main wiring harness connected to the back side of the control console.
4. Using a long 9 mm socket remove the two nuts holding the control console to the panel. Take off the metal support bracket and remove the old control console.
5. Install a new control console based on your model into the control panel and attach metal support bracket over the 2 bolts.
6. Add the 2 lock washers and nuts and tighten with a 9 mm socket to secure the control console to the control panel.
7. Install wiring harness to control console.
8. Position the control panel in place and add the 4 bolts and lock washers. Tighten with a 5/32" allen wrench.

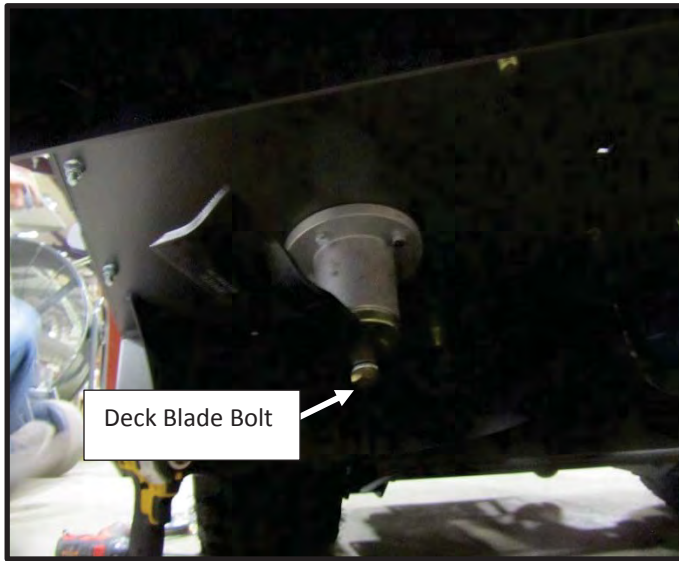
Caution: Do not overtighten.

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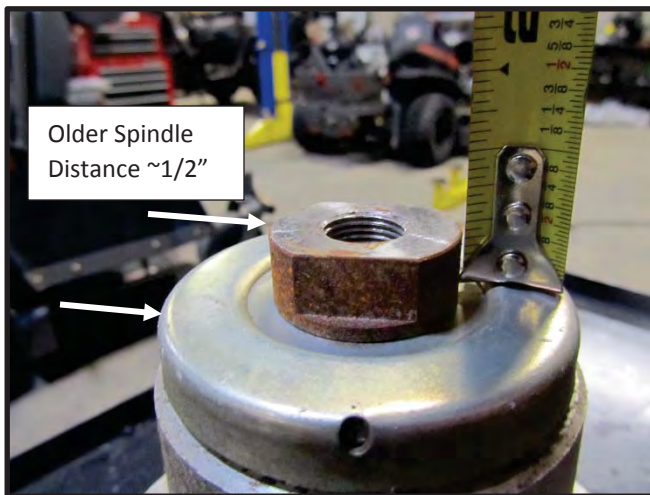
Replacing Deck Blade, Spindle, & Belt – Spartan Mower RT/SRT Series



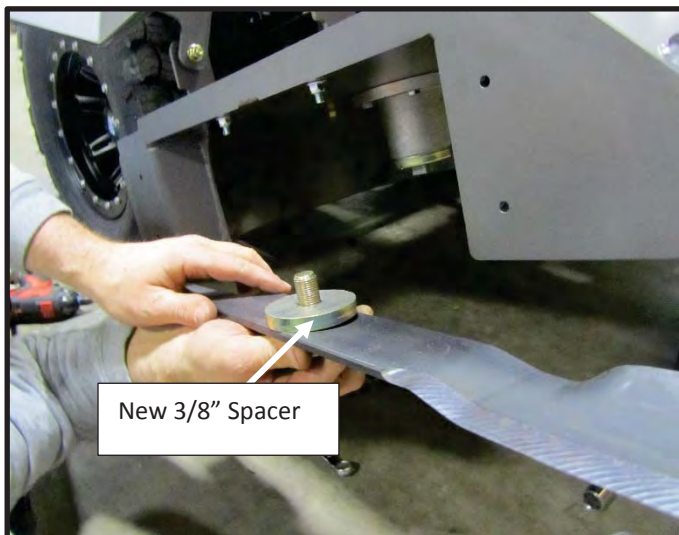
Section 1 – Replacing Deck Blade and Spacer Kit



Deck Blade Bolt



Older Spindle
Distance ~1/2"



New 3/8" Spacer

Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the deck blades, deck pulleys, spindles, and the deck belt.

1. Raise the deck to its highest position.
2. Using a 15/16" socket remove the blade and its bolt and lock washer.
3. If replacing the deck spindle skip to the next section.
4. If the blade needs replacing use the appropriate size deck blade per the parts manual.
5. If this is an older style spindle then call Intimidator to get the Spacer Kit (PN 418006900).

Note 1: The Spacer Kit includes a 3/8" spacer and a longer (1 7/8") deck blade bolt and washer for each of the blades.

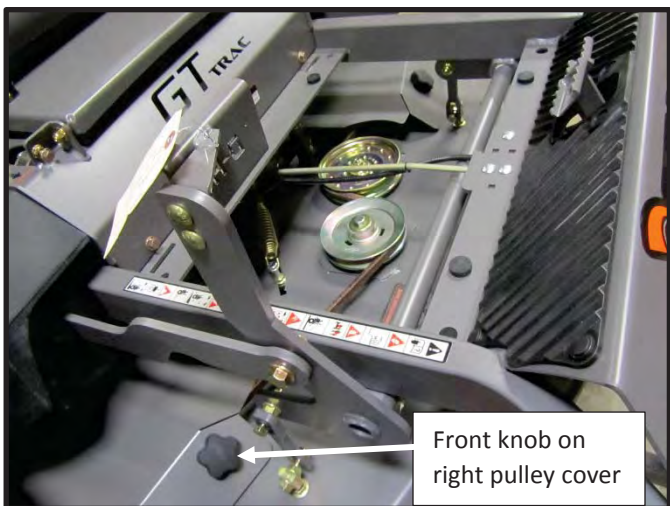
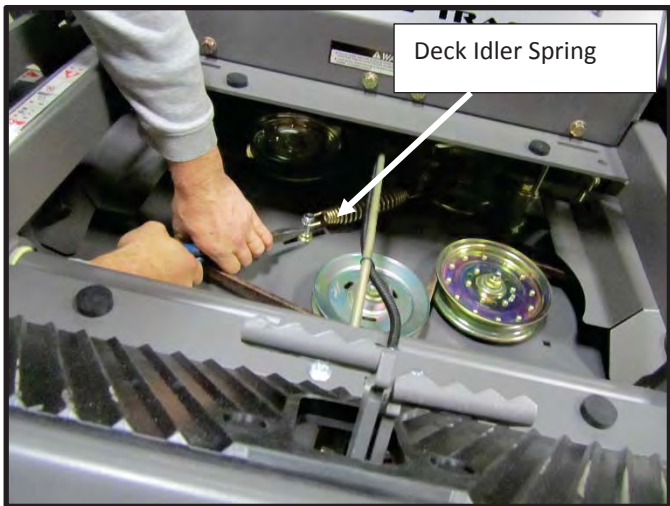
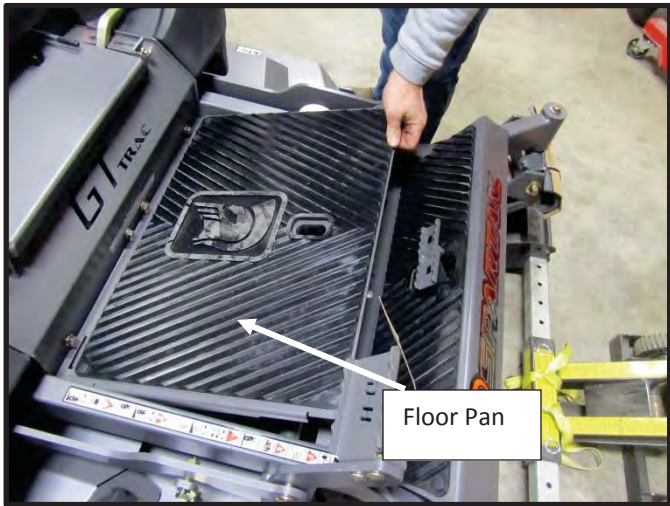
Note 2: The older spindles are ~1/2" long from bottom of spindle body to bottom of spindle nut as shown in picture. The best way to determine is to measure it. The new spindles are ~7/8" long for this same distance.

6. Use the new longer deck bolt and the 3/8" spacer in the Kit to lower the blade when installing it as shown in picture.
7. Install the new bolt, split washer, blade, and spacer into the deck spindle and tighten with a 15/16" socket.
8. Repeat for other deck blades as needed.

Replacing Deck Blade, Spindle, & Belt – Spartan Mower RT/SRT Series



Section 2 – Replacing Deck Pulley, Deck Spindle and Deck Belt

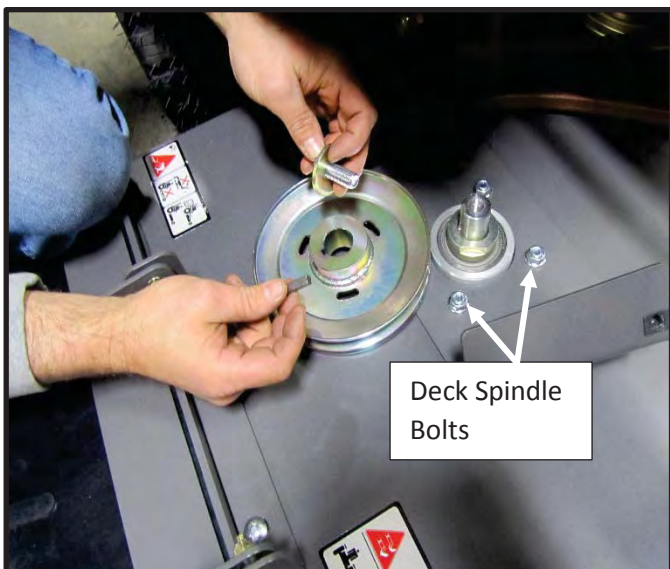
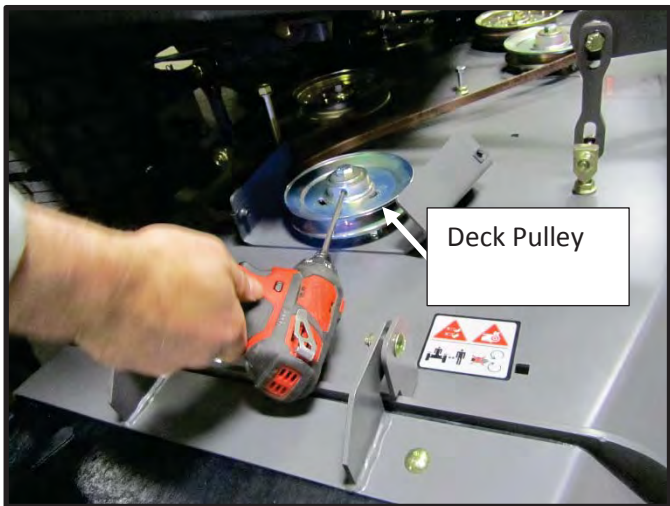
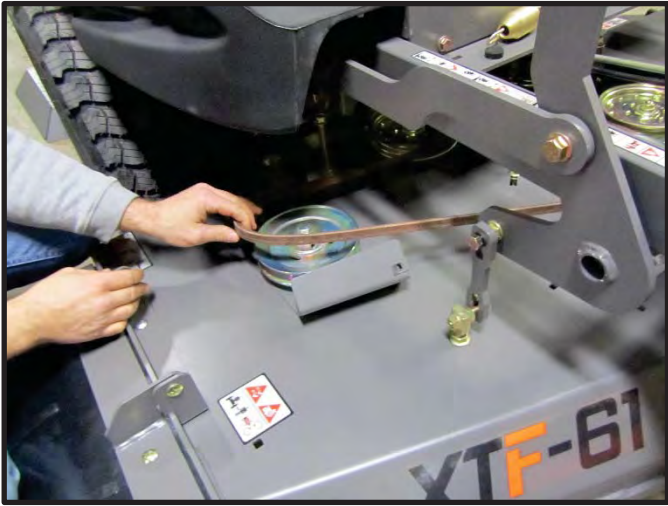


1. Remove the floor pan.
2. Lower deck down all the way to allow for more room on top of deck to work.
3. Raise the front of the mower with either a zero turn lift or a regular jack with 2 jack stands under the front end.
4. Remove the deck idler spring with a pair of pliers.
5. Remove the pulley cover on one side by loosening the two knobs as shown.
6. Remove the pulley cover on the other side by loosening the two knobs.

Replacing Deck Blade, Spindle, & Belt – Spartan Mower RT/SRT Series



Section 2 Cont. – Replacing Deck Pulley, Deck Spindle and Deck Belt

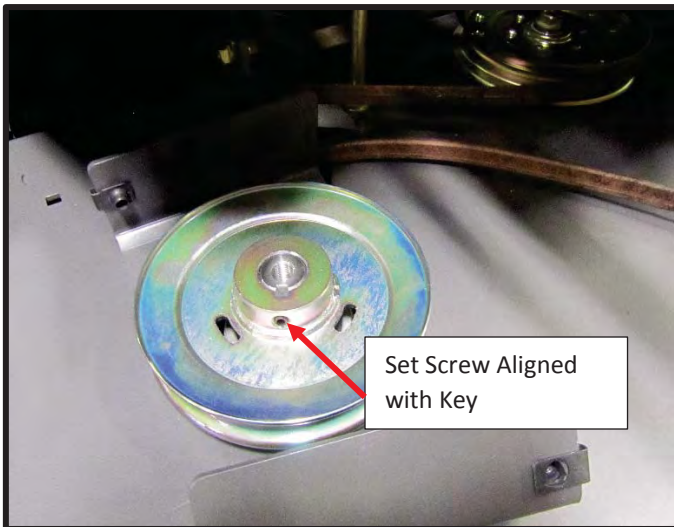


7. Remove the belt from each of the deck pulleys as shown. If the belt needs replacing then also remove the belt from the clutch at the rear of the mower.
8. If the deck belt only needs replacing at this time, then drop down to step 16 of this section.
9. If a deck pulley or spindle needs replacing, then continue to the next step.
10. Use a 5/32" allen wrench to loosen the set screw in the deck pulley.
11. Use a 3/4" socket to remove bolt on top of pulley. Remove pulley, key, and washer.

Replacing Deck Blade, Spindle, & Belt – Spartan Mower RT/SRT Series



Section 2 Cont. – Replacing Deck Pulley, Deck Spindle and Deck Belt



12. Remove the 4 deck spindle bolts underneath the deck using a 9/16" socket and a 9/16" wrench on the top nuts. Lower the spindle to the ground.

13. Replace as needed with a new deck spindle(s) as specified in the parts manual. Using the 4 bolts and nuts removed above attach the new spindle to the deck.

14. Replace the deck pulley(s) as specified in the parts manual if needed and install pulley onto top of deck and spindle using the bolt, washer, and key removed earlier.

Note: The set screw in the pulley has to be aligned with the flat key.

15. Tighten the pulley bolt with a 3/4" socket and then tighten the set screw with a 5/32" allen wrench.

16. If needed replace belt with a new one based on the belt shown in the parts manual.

17. Route the belt around the pulleys as shown on the *deck belt routing* diagram or as shown in the parts manual.

18. Install the idler spring with pliers.

19. Attach both pulley covers and tighten the knobs.

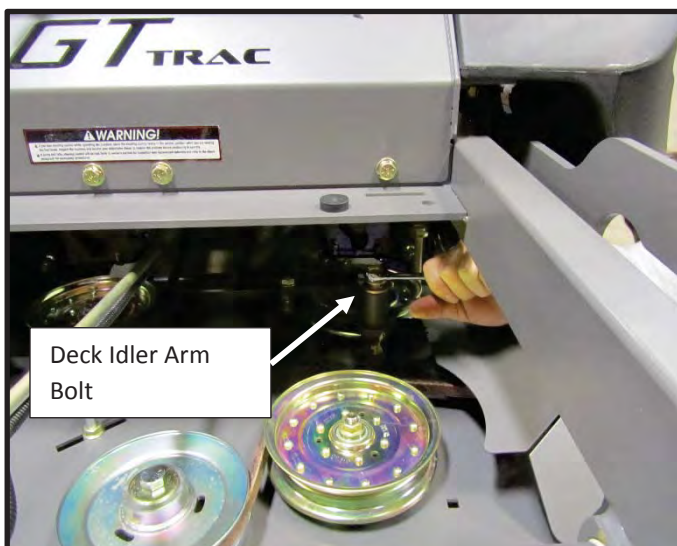
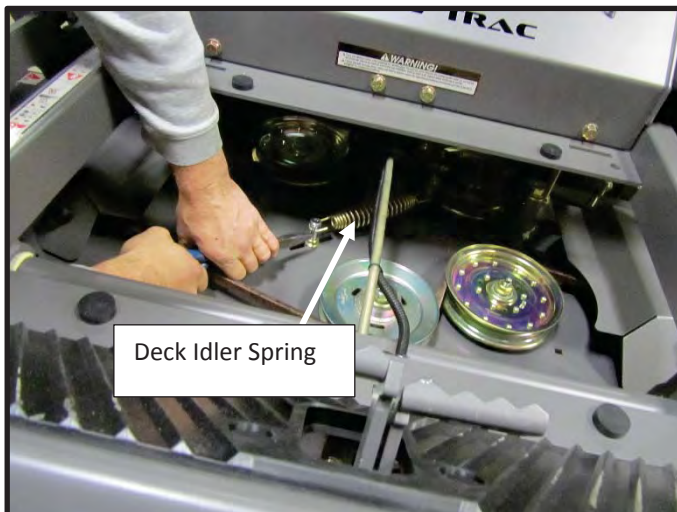
20. When complete lower the front end and remove the jack.

21. Replace the floor pan.

Replacing Deck Idler Arm – Spartan Mower RT/SRT Series



Section 1 – Deck Idler Arm Removal



Safety: Place the mower in Park on level ground and turn off the ignition.

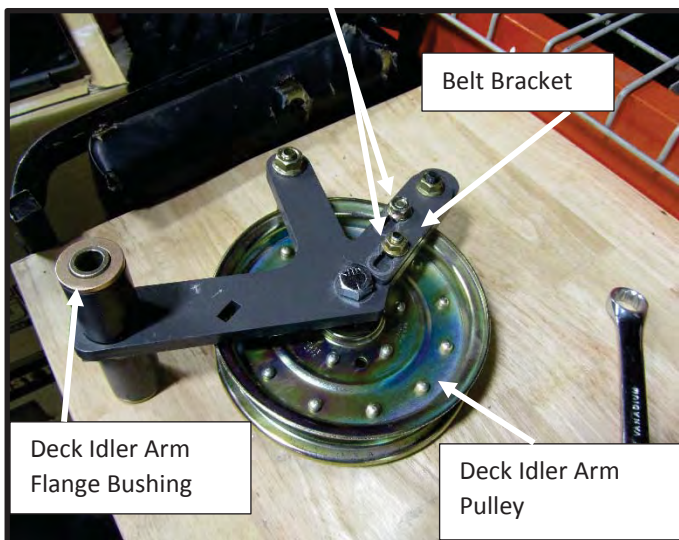
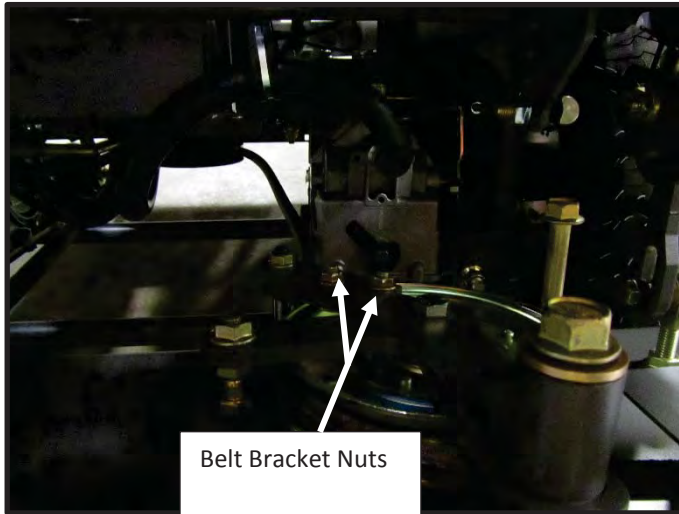
Note: This procedure describes how to replace and adjust the deck idler arm assembly.

1. Remove the floor pan.
2. Raise the front of the mower with either a zero turn lift or a regular jack with 2 jack stands under the front end.
3. Remove the deck idler spring with a pair of pliers.
4. Remove the deck idler arm bolt by using a 3/4" socket underneath deck and a 3/4" wrench on top side of bolt.

Replacing Deck Idler Arm – Spartan Mower RT/SRT Series



Section 1 Cont. – Deck Idler Arm Removal



5. Using a 1/2" wrench loosen the 2 nuts on top of belt bracket on the idler arm. Slide the bracket toward the center of pulley allowing slack for removal of belt.
6. Remove idler arm assembly and place on a bench.

7. Old style idler arm assemblies do not have the belt bracket as shown in the picture. The older style needs to be replaced with one that has the belt bracket. Call Intimidator for the newer style.

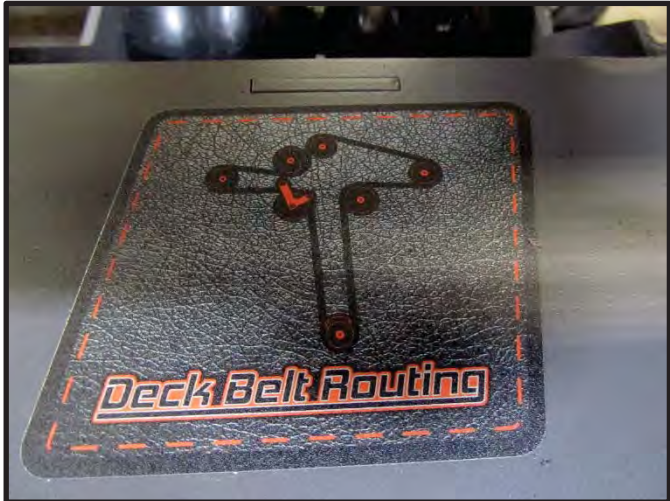
Note: The belt bracket prevents the belt from slipping off the idler arm assembly.

8. If idler arm pulley needs replacing then remove old pulley with a pair of 3/4" wrenches.
9. Replace with new deck idler pulley as specified in the parts manual.
10. If bushings are worn using a punch and hammer remove the idler arm flange bushings on each end of idler arm assembly. Replace with new bushings as specified in the parts manual.

Replacing Deck Idler Arm – Spartan Mower RT/SRT Series



Section 2 – Deck Idler Arm and Belt Installation

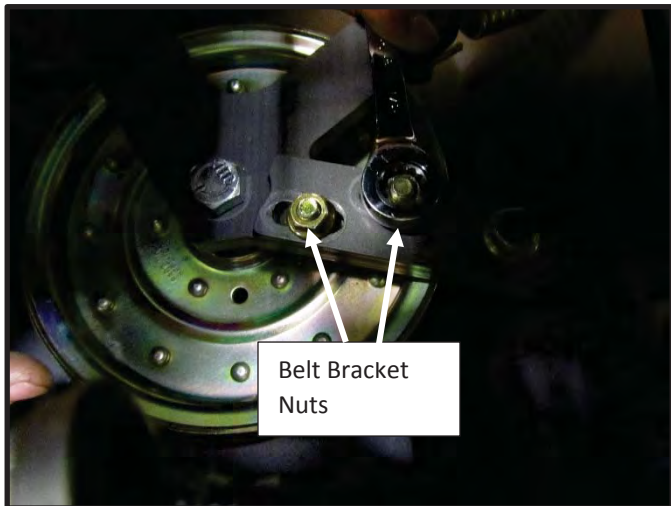
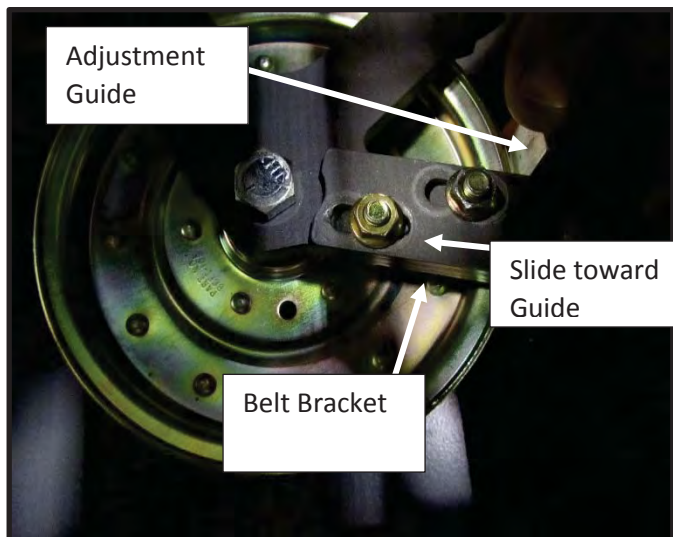


1. Install the deck idler arm assembly and insert the bolt. Tighten the bolt on top and underneath deck with 3/4" socket and wrenches.
2. If belt needs replacing see the procedure ***"Replacing Deck Blade, Belt, and Spindle"***
3. Route the belt around the pulleys as shown on the *deck belt routing* diagram or as shown in the parts manual.
4. Install idler arm spring with pliers.

Replacing Deck Idler Arm – Spartan Mower RT/SRT Series



Section 2 Cont. – Deck Idler Arm and Belt Installation

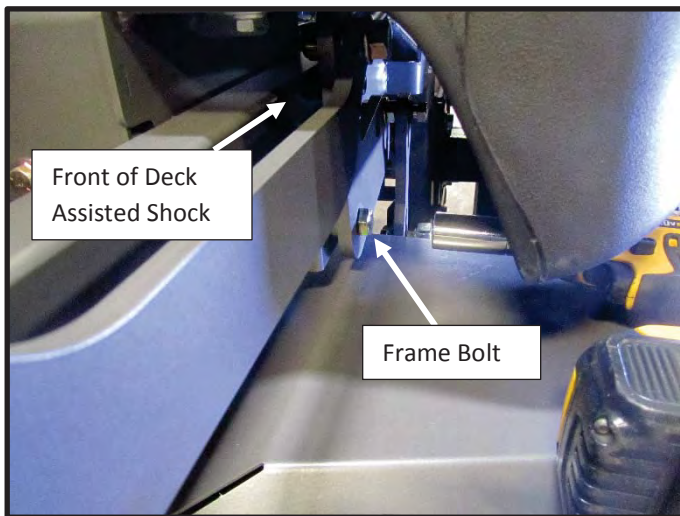
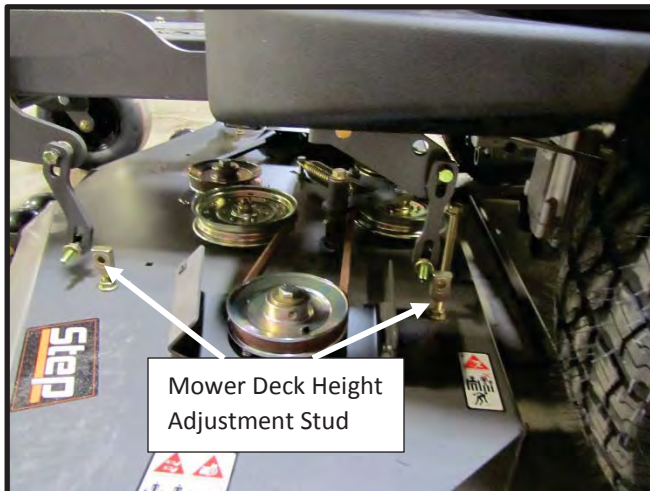
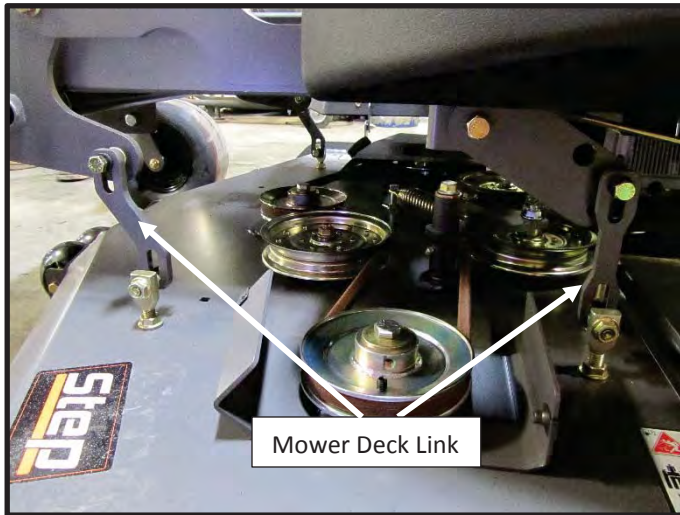


5. For easier access lower the front end to the ground.
6. Using a 1/8" plate (similar to one shown in picture) as an adjustment guide - place the plate between the belt bracket on the idler arm and the belt as shown.
7. To keep a 1/8" gap between the belt and the belt bracket - slide the belt bracket to the adjustment plate and tighten the 2 nuts on top of belt bracket with a 1/2" wrench.
8. Replace the floor pan.
9. Lower the front end to the ground and remove the jack.

Replacing Deck Assisted Shock – Spartan Mower RT/SRT Series



Section 1 – Removing the Deck Assisted Shock



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the deck assisted shock.

1. Lower the deck to its lowest position.
2. Using an 11/16" socket and 5/8" wrench on back side remove the nuts on the deck hanger bolts at all 4 locations. These bolts hold the mower deck link to the mower deck height adjustment stud.

Note: The pulley cover does **not** have to be removed as shown in the picture.

3. Place 4 (~2") wooden blocks under the deck for use in the next step.
4. Remove the bolt from the mower deck height adjustment stud at all 4 locations allowing the deck to rest on the wooden blocks.

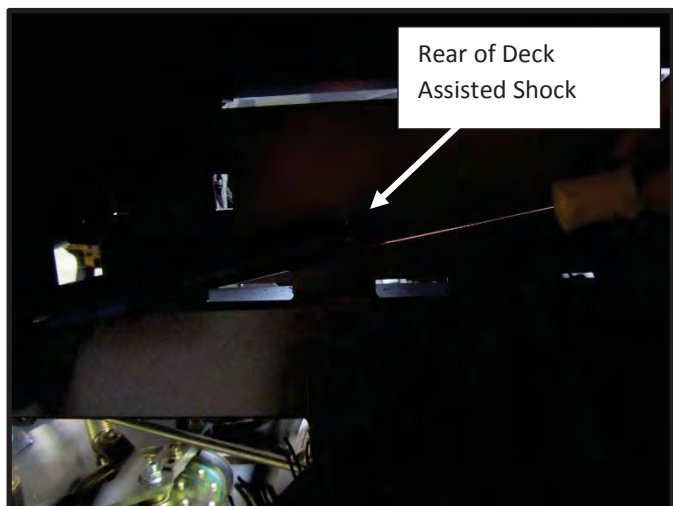
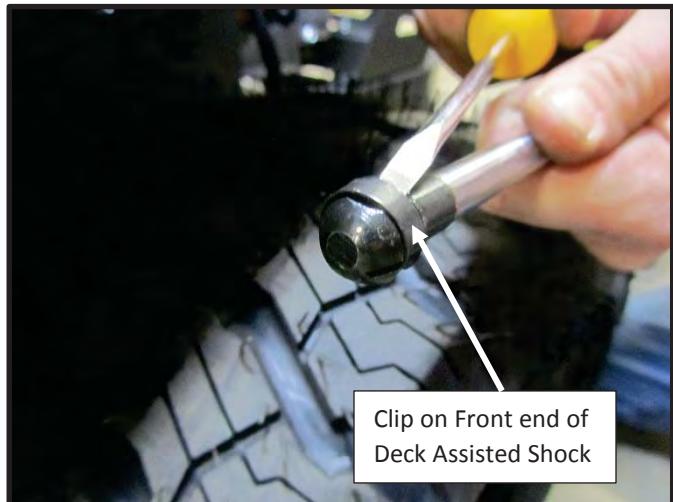
Note: This removes tension from the deck assisted shock allowing for easier removal.

5. Loosen the frame bolt as shown in picture with a 3/4" socket and wrench.
6. Locate the front end of the deck assisted shock.

Replacing Deck Assisted Shock – Spartan Mower RT/SRT Series



Section 1 Cont. – Removing the Deck Assisted Shock



7. Place the end of a flat screw driver between clip and front end of the shock. Then twist screw driver and remove front end of shock off its stud.

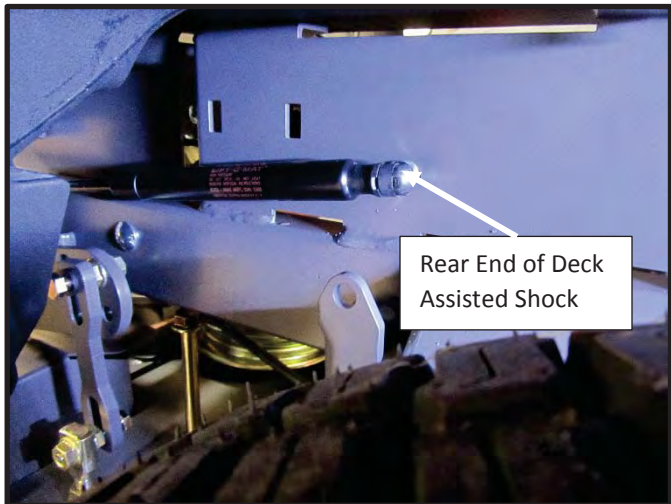
8. Go to the rear of shock over the rear tire. Place the end of the flat screw driver between clip and end of the shock. Then twist screw driver and remove rear end of shock off its stud.

9. This picture just shows that the rear end of the shock has a similar clip as the front end does.

Replacing Deck Assisted Shock – Spartan Mower RT/SRT Series



Section 2 – Installing the new Deck Assisted Shock

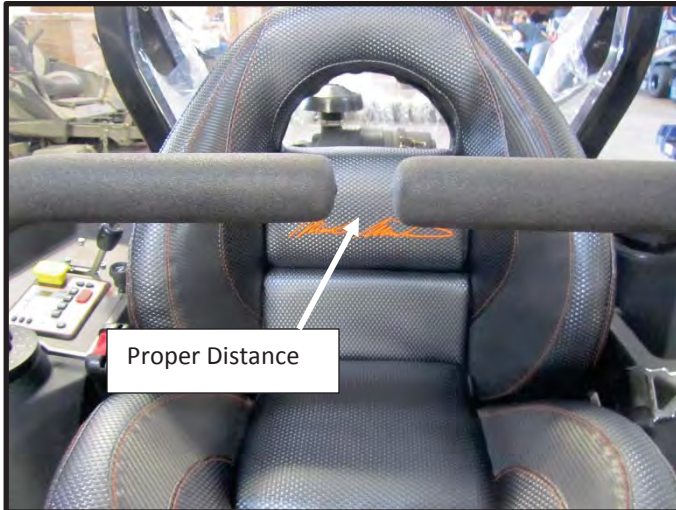


1. Replace the shock with a new one as specified in the parts manual.
2. Install the rear end of the shock first by placing it over its stud and pushing and twist it on.
3. Attach the front end of the shock in like manner by twisting it on to its stud.
4. Tighten the frame bolt with a 3/4" socket and wrench. Tighten the bolt then loosen 1/4 turn to allow some movement.
5. This step requires another person to help lift the deck and insert the 4 mower deck hanger bolts into the deck height adjustment studs.
6. Install the nuts and tighten using an 11/16" socket and 5/8" wrench on the back.
7. Verify that new deck assisted shock is working properly by raising and lowering the deck.

Adjusting the Driver Arms – Spartan Mower RT/SRT Series



Section 1 – Adjusting Distance Between the Driver Arms



Safety: Place the mower in Park on level ground and turn off the ignition.

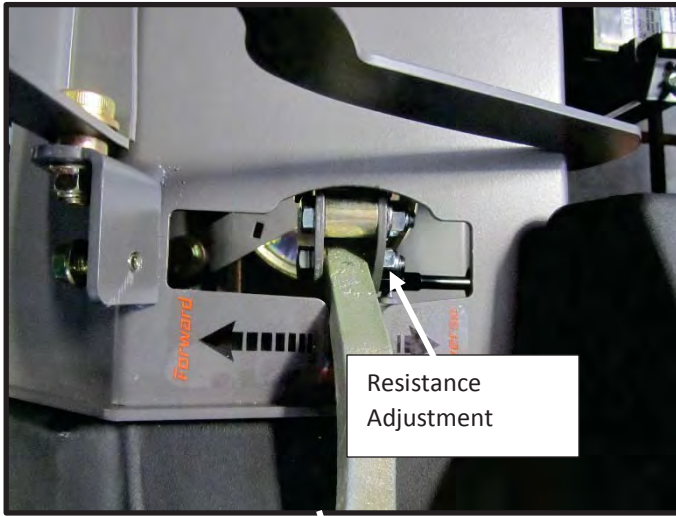
Note: This procedure describes how to make adjustment to the distance between the arms in the neutral position and how to adjust the resistance in the arm.

1. The proper distance between the two drive arms when in the neutral position is 1 – 2". The arms also need to be aligned in the middle of the mower as shown in the picture.
2. If the arms overlap or are not in the center of the mower then adjustment of the drive arms is needed.
3. Raise the seat and using two 9/16" wrenches loosen the nylon lock nut shown in the picture enough to allow movement of the arm with a pry bar.
4. Using pry bar move the spacer toward outside of mower. Then push the drive arm until proper clearance between arms is achieved.
5. Tighten the lock nut when the arm is in the correct position.
6. Complete this procedure on the opposite arm if needed.

Adjusting the Driver Arms – Spartan Mower RT/SRT Series



Section 2 – Adjusting Resistance in the Drive Arms

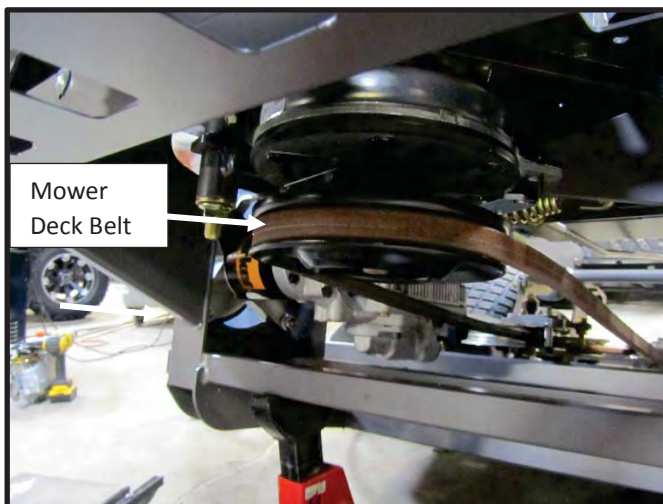
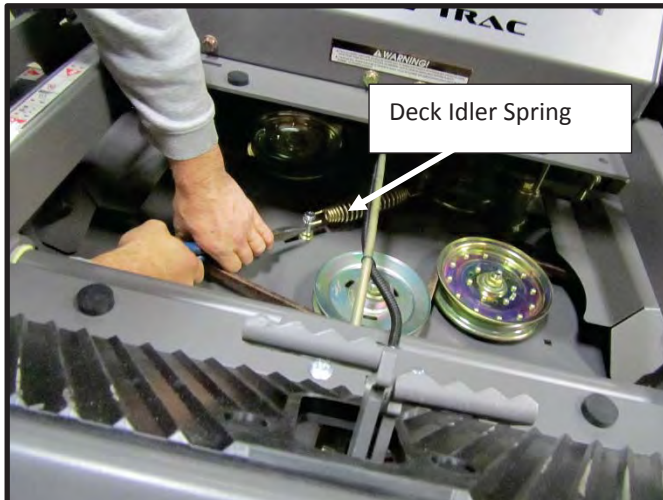
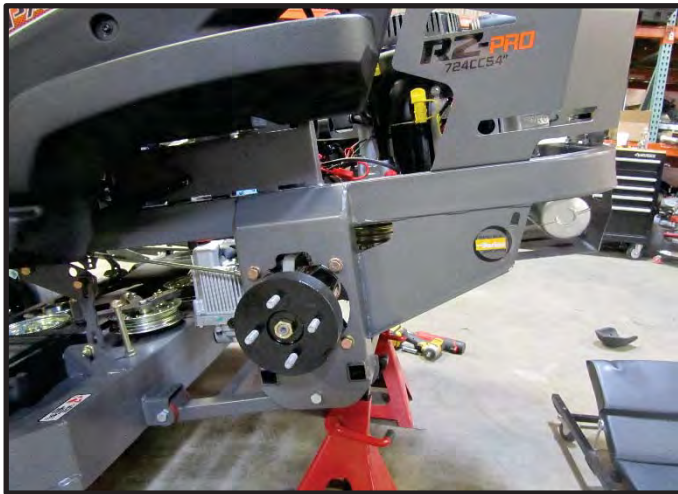


1. The resistance when moving the arms in toward middle of mower and then toward outside can be adjusted if needed.
2. Using two 9/6" wrenches tighten the nylon lock nut shown in the picture to increase the resistance.
3. Loosen the nylon lock nut to decrease the resistance.

Replacing Drive Belt – Spartan Mower RT/SRT Pro and HD Series



Section 1 – Removing Drive Belt



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the drive belt. The Parts Manual description for the wheel motor is hydrostatic transmission but the term wheel motor will be used here.

1. Jack the rear end up and install jack stands.

Note: The wheels do not have to be removed as shown in the picture.

2. Release the park brake.

3. Remove the front floor pan.

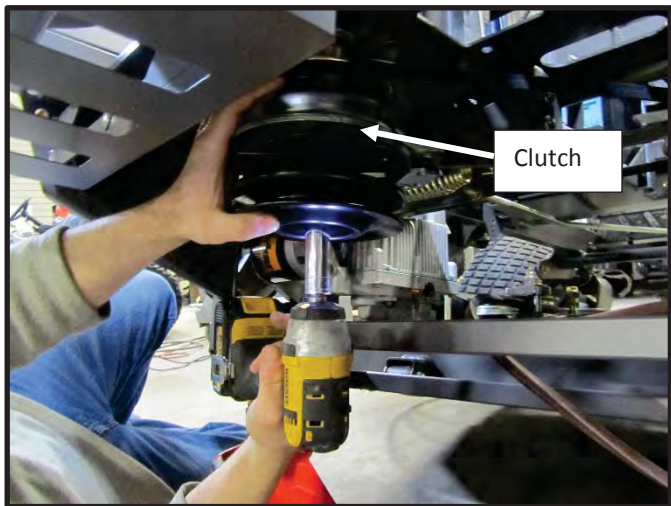
4. Remove the deck idler spring with a pair of pliers.

5. Remove the mower deck belt from the clutch.

Replacing Drive Belt – Spartan Mower RT/SRT Pro and HD Series



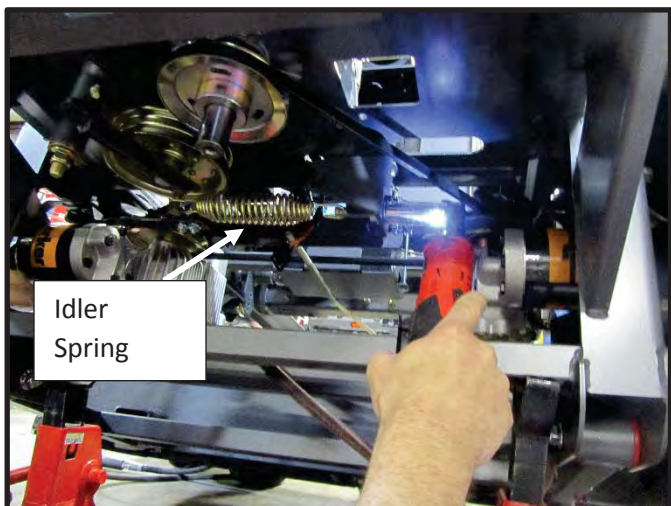
Section 1 Cont. – Removing Drive Belt



6. Using a 5/8" socket remove the bolt holding the clutch.



7. Lower clutch down and unplug it.

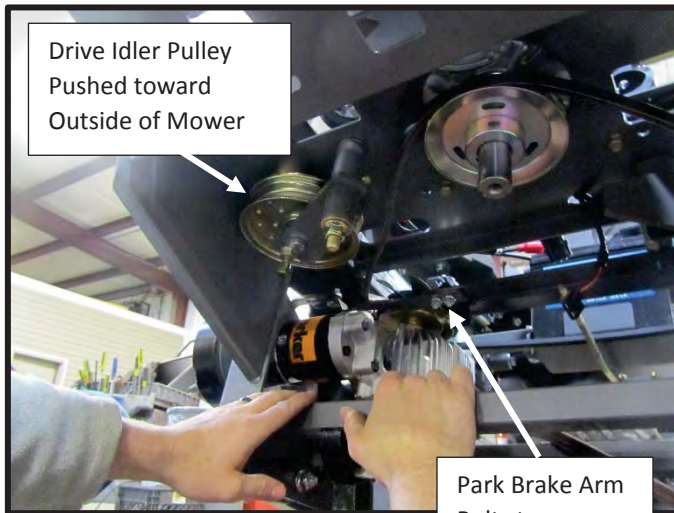


8. Use a 3/4" socket to remove the end nut on the idler spring bolt.
9. Remove the idler spring and bolt.

Replacing Drive Belt – Spartan Mower RT/SRT Pro and HD Series



Section 1 Cont. – Removing Drive Belt



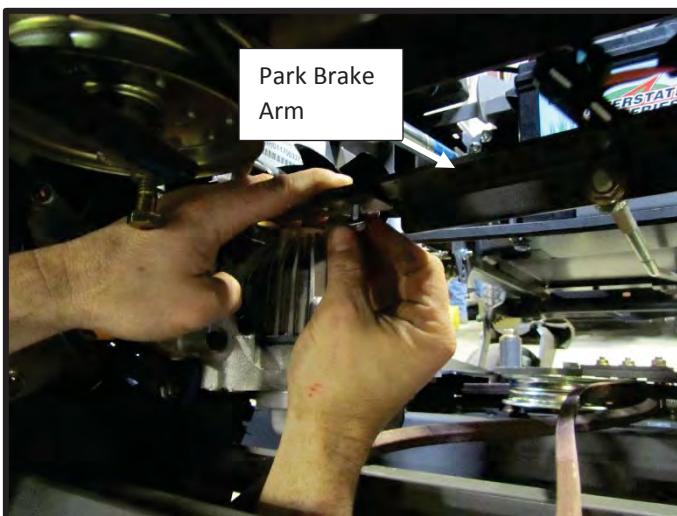
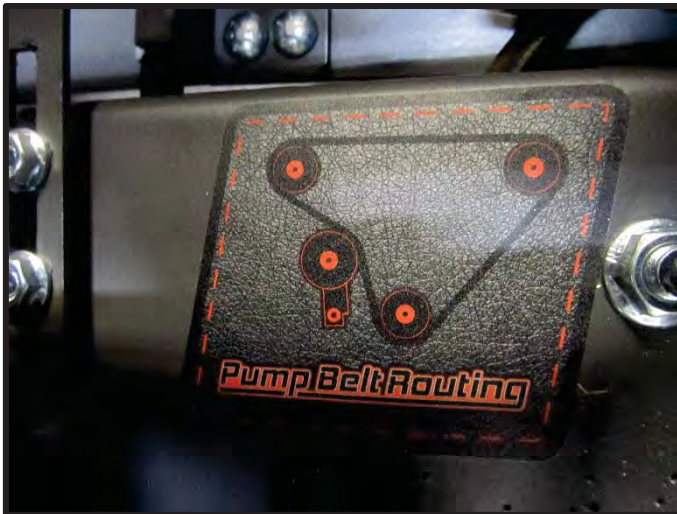
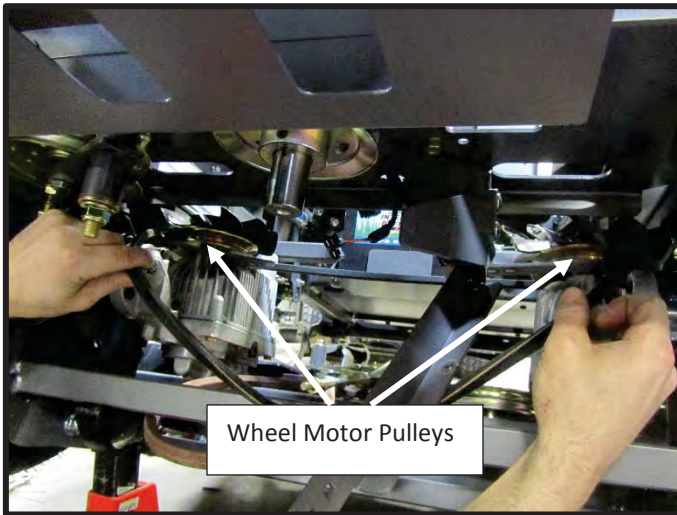
10. Push drive idler pulley toward outside of mower to remove tension from drive belt.

11. Using 1/2" socket remove 2 nuts and bolts from each side of park brake arm.

12. Remove belt from the drive pulley and both wheel motor pulleys. Pull the drive belt out.



Section 2 – Installing the Drive Belt



1. Install the new belt as specified in the parts manual around the wheel motor pulleys.

2. Install the drive belt around the drive pulley.

Note: Ensure the belt is routed correctly per the drawing on the driver's right hand side by the engine as shown.

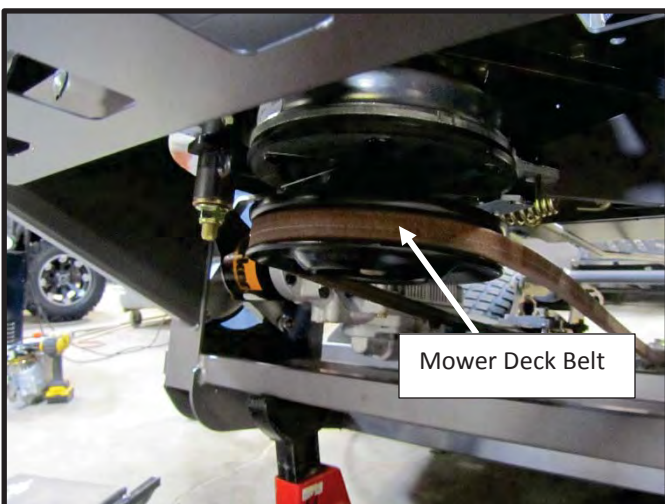
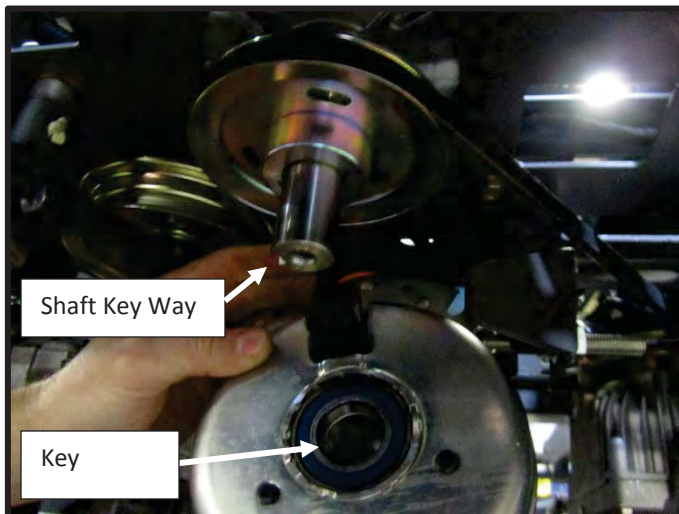
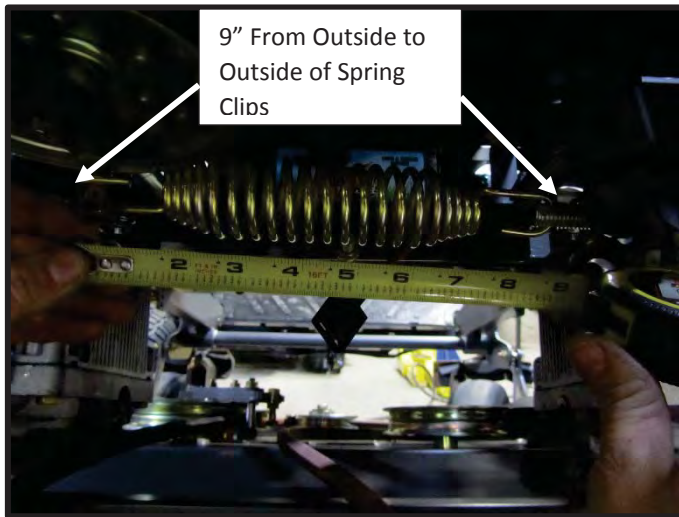
3. Install 2 nuts and bolts on each end of park brake arm and tighten with 1/2" socket.

4. Push idler arm pulley toward center of mower. Attach the idler spring to its pulley and the bolt end to the frame. Secure the bolt with its nut and adjust the spring in the next step.

Replacing Drive Belt – Spartan Mower RT/SRT Pro and HD Series

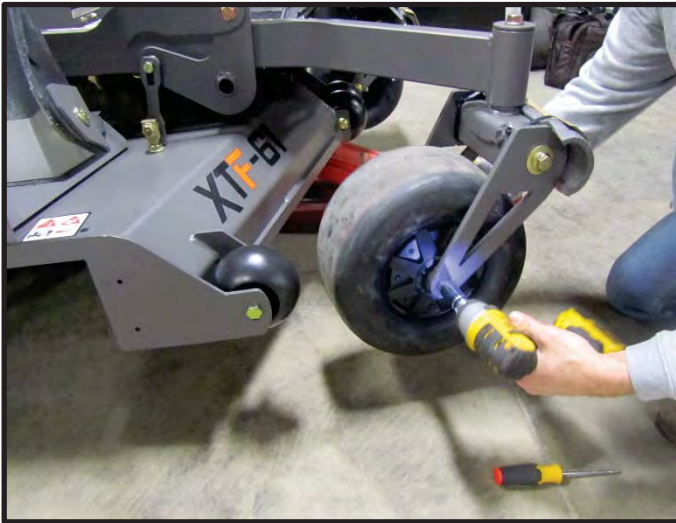


Section 2 Cont. – Installing the Drive Belt



5. Adjust the spring length to 9" from outside to outside of the spring clips as shown in picture by using a 3/4" wrench to tighten the bolt end nut.
6. Once the spring length is adjusted properly tighten the jamb nut on inside of spring bolt using a 3/4" wrench.
7. Attach wiring connector to clutch and mount the clutch by aligning key to groove in shaft as shown in picture.
8. Secure the clutch to the shaft using the lock washer and bolt removed earlier and tighten with a 5/8" socket.
9. Install mower deck belt on clutch.
10. Install idler arm spring in front with pliers and then put the front deck cover back on.
11. Using a jack remove jack stands and lower the rear end to the ground.

Section 1 – Replacing Wheel Bearings



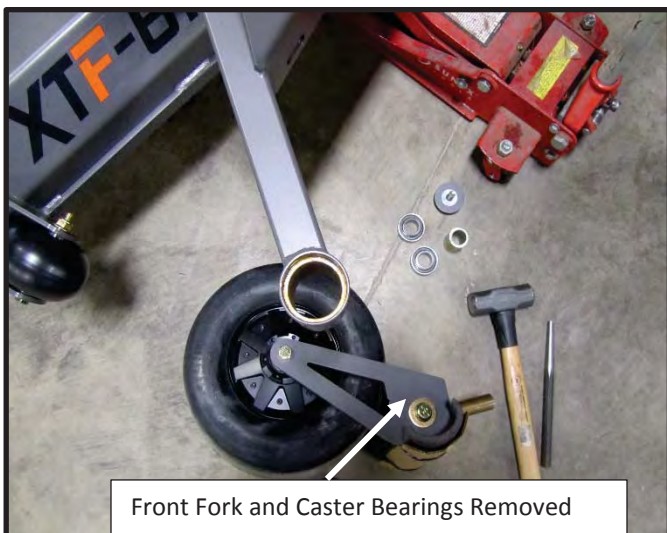
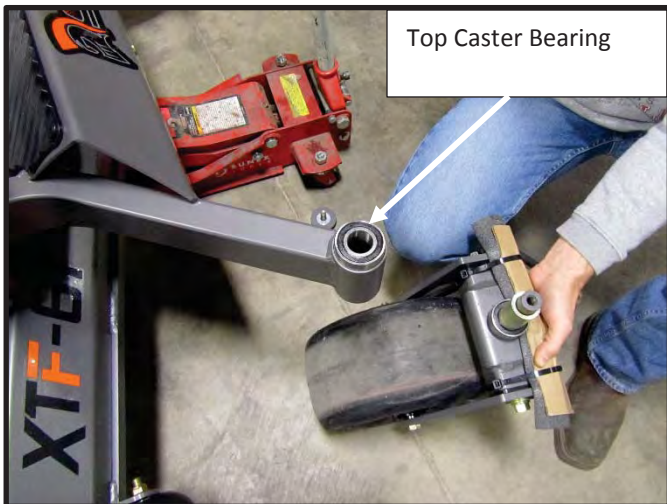
Safety:

- Place the mower in Park on level ground and turn off the ignition.
- Use a jack and stands and raise the front end of the mower.

Note: This procedure describes how to replace a front fork, the caster shaft bearings, the front fork suspension bushings (SRT models only), and the front wheel bearings.

1. Using a 3/4" socket and wrench remove the bolt and nut from the front wheel and separate the wheel from the front fork.
2. Using a hammer and long punch remove both wheel bearings from the front wheel.
3. Install 2 new bearings as specified in the parts manual with raised face out into the front wheel on each side. Press (or use a rubber mallet) the bearing into the wheel until it bottoms out.
4. If the job is complete, then attach wheel to the front fork using a 3/4" socket and wrench. If work on the front fork is needed go to the next section.

Section 2 – Front Fork / Caster Shaft Bearing Removal



1. Remove the bolt and 2 washers on top of front fork using a 3/4" socket.

2. Using a long punch and hammer separate the bottom caster bearing from the front arm and lower assembly to the ground.

Note: Sometimes the bottom caster bearing will stick to the shaft and has to be separated with pullers.

3. Use the long punch and hammer to separate the top caster bearing from the front arm.

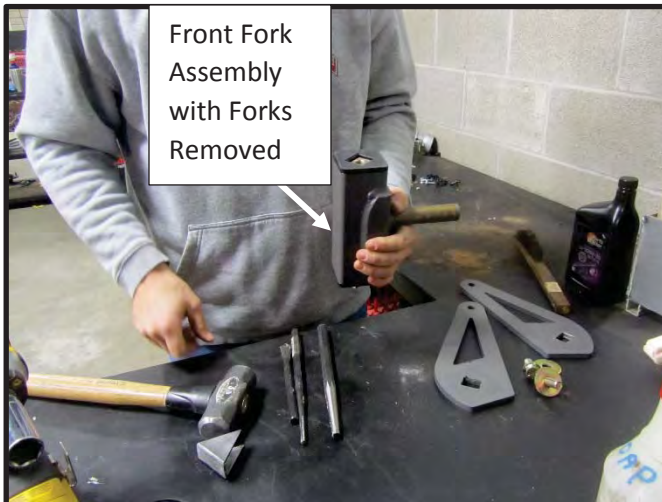
Note: The picture shows the front fork assembly removed along with the two caster shaft bearings, bolt/washers, and spacer on the ground.

Section 3 – Replace Front Fork Suspension Bushings

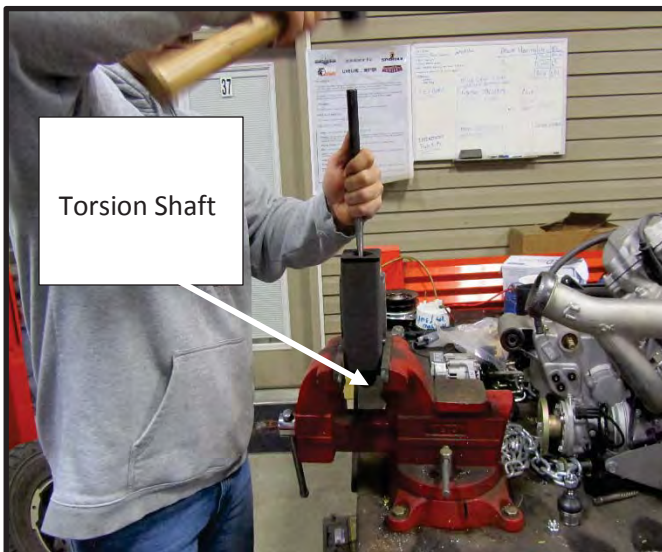
For SRT Models



1. Using a 3/4" socket remove the bolt and washer from each end of the front fork.

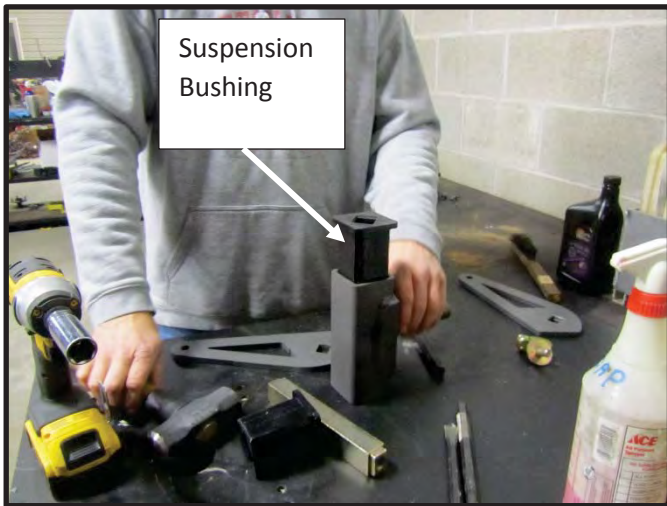
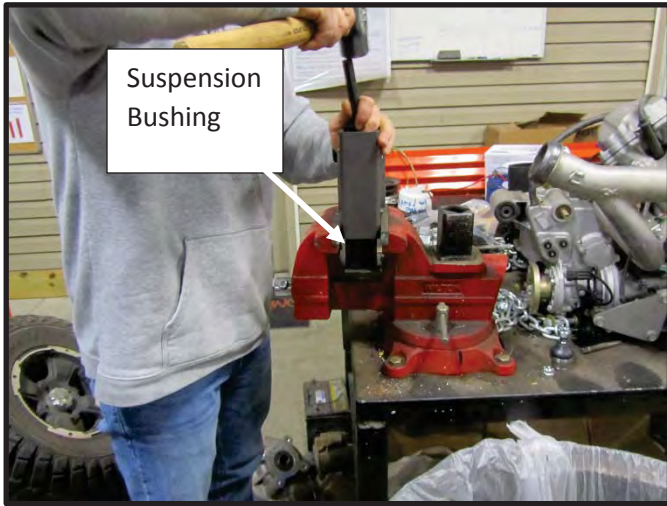


2. Remove each fork by pulling apart or bumping with a hammer.



3. Place the fork assembly in a vice and remove the torsion shaft using a hammer and punch.

Section 3 Cont. – Replace Front Fork Suspension Bushings

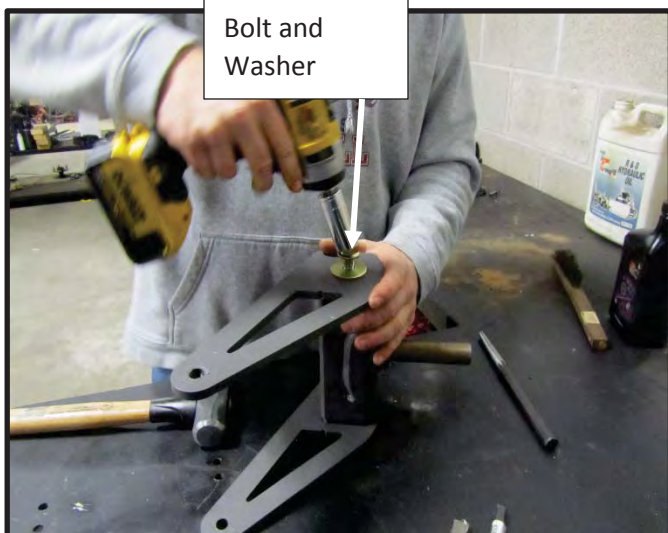
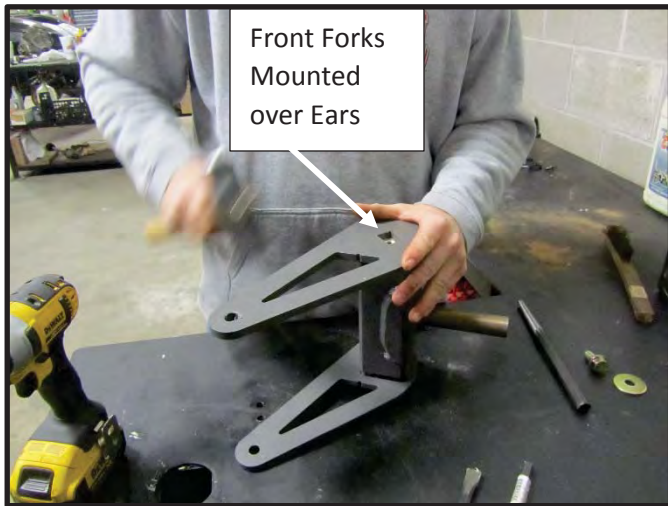


4. Next using the punch remove both suspension bushings from each end of fork assembly.

5. Using new suspension bushings as specified in the parts manual apply a thin coat of light lubricant (for easier removal in future) and install bushings into each end of the fork assembly.

6. Install the torsion shaft through the bushings.

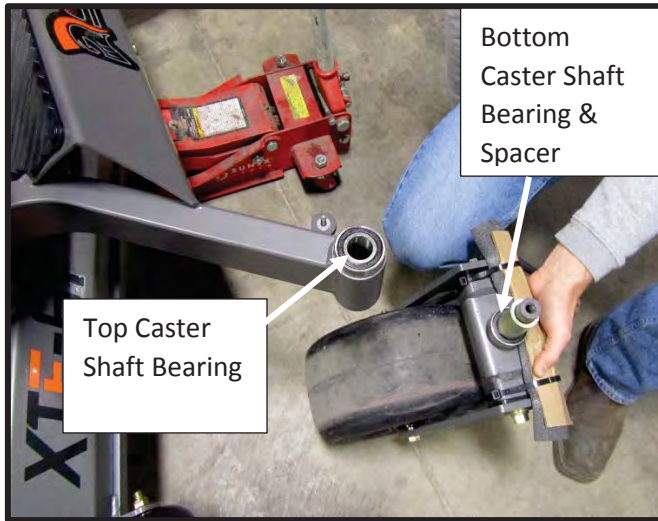
Section 3 Cont. – Replace Front Fork Suspension Bushings



7. Using a hammer mount each fork arm over the ear of the torsion shaft.

8. Secure each arm with the bolt and washer using a 3/4" socket.

Section 4 - Install New Front Fork Bearings



1. Install a new caster shaft bearing (as specified in the parts manual) raised face down followed by the spacer onto the front fork shaft.

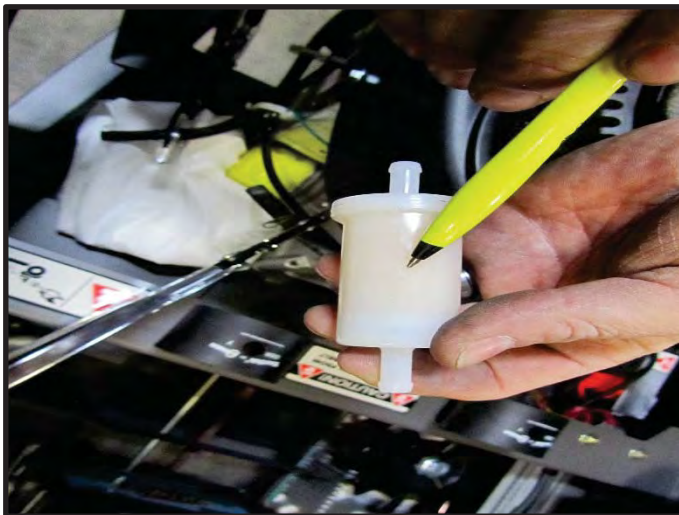
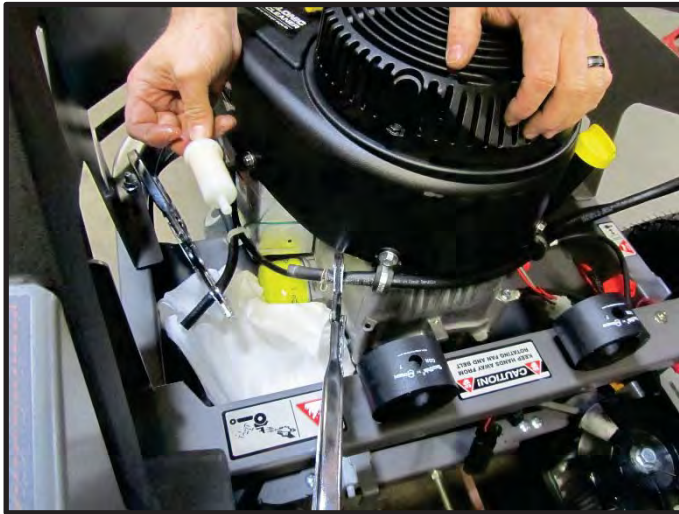
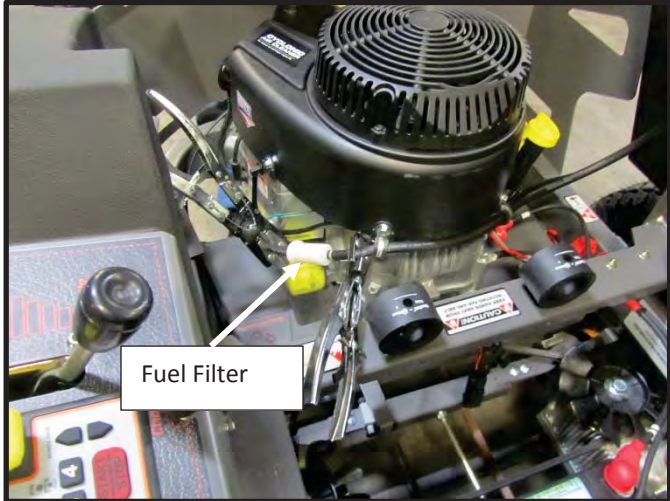
Note: The pictures show the wheel attached but it is best to attach the wheel after the fork assembly is in place.

2. Install a new caster shaft bearing (as specified in the parts manual) raised face up into the top of the fork arm using a rubber mallet until it bottoms out.
3. Install bolt and 2 washers into top of front fork assembly and tighten with a 3/4" socket.
4. Install wheel and lower the front end to the ground.

Replacing the Fuel Filter / Fuel Pump– Spartan Mower RT/SRT Series



Section 1 – Replacing the Fuel Filter



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the fuel filter and fuel pump.

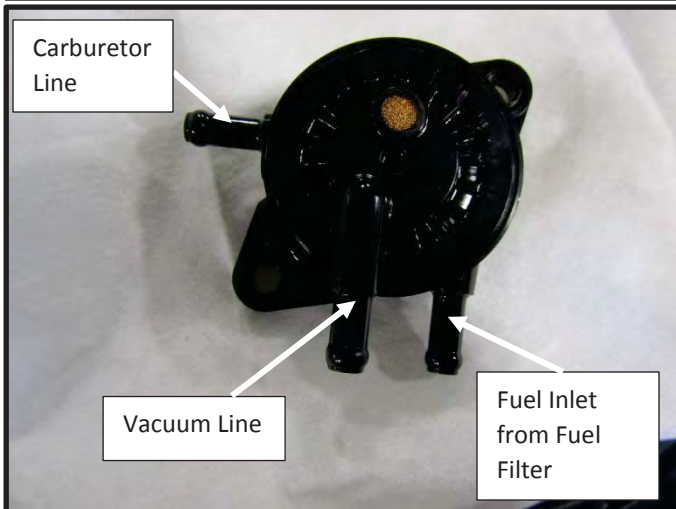
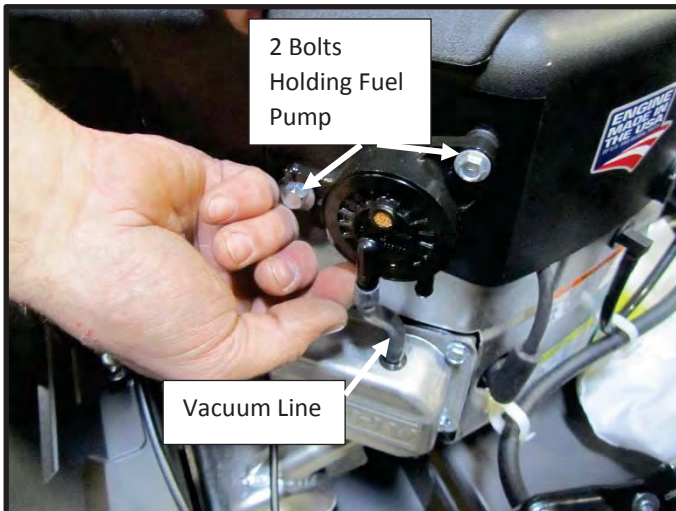
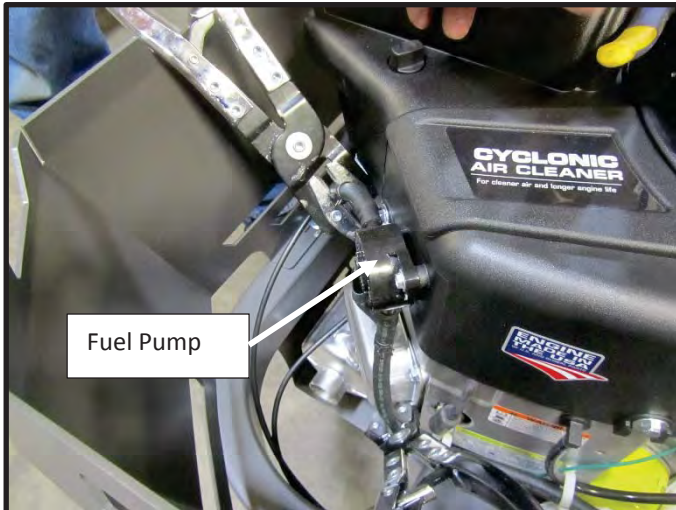
Safety: It is important that no open flames including **smoking** be present during this procedure.

1. Locate the fuel filter in the fuel line coming from the fuel tank.
2. Clamp the 2 fuel lines going to and from the filter.
3. Place a rag or paper towel under the filter to catch any drips.
4. Use pliers to press on hose clamps on each of fuel lines then slide them away from the filter.
5. Twist the filter to break it loose and remove it from its 2 lines.
6. Install a new filter by twisting it into the fuel lines. Noting the direction of the arrow should be toward the carburetor.
7. Move the hose clamps back over the ears of the filter nozzles to secure filter in place.
8. Remove the clamps on each of the fuel lines installed in Step 2 above.
9. Start the engine and check for leaks. Repair any that are found. Properly dispose of any gasoline towels.

Replacing the Fuel Filter / Fuel Pump– Spartan Mower RT/SRT Series



Section 2 – Replacing the Fuel Pump

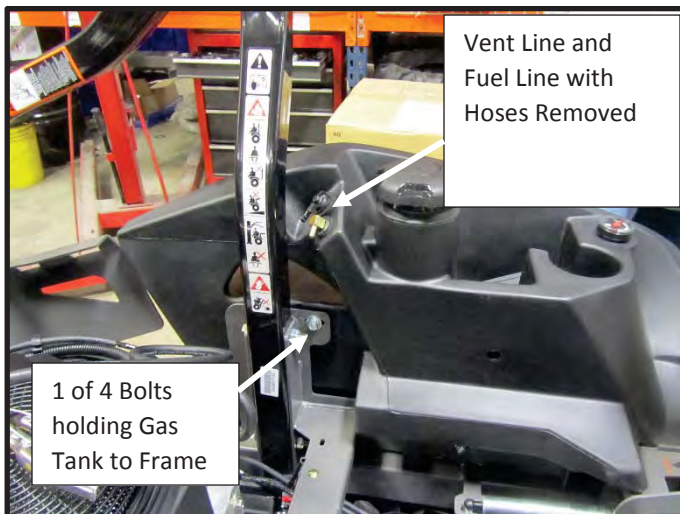
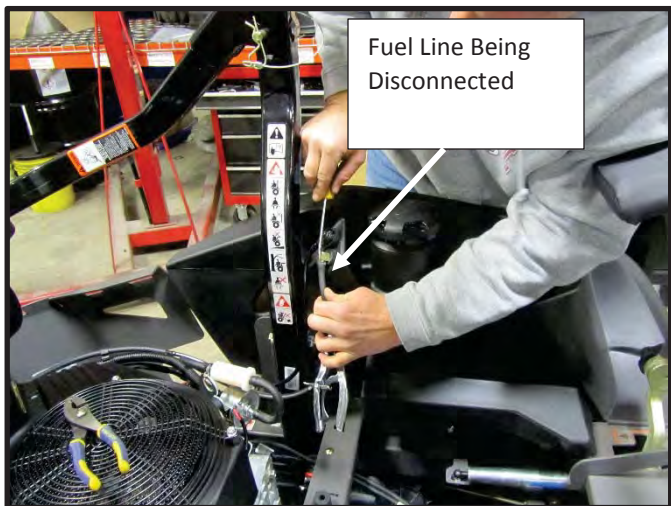


1. Locate the fuel pump downstream of the fuel filter. Install line clamps on the fuel lines going to carburetor and from the fuel filter.
2. Place a cloth or paper towel under the fuel pump to catch any gasoline drips.
3. Using pliers loosen hose clamps and slide away from the fuel pump. Remove the fuel lines from the pump.
4. Remove the vacuum line from the valve cover.
5. Using a 5/16" socket remove the 2 bolts holding the fuel pump in place.
6. Replace with a new fuel pump as specified in the parts manual. Be sure to mount in same direction as the one taken off with the vacuum line and fuel line from filter pointing down.
7. Install the pump with the 2 bolts and tighten with a 5/16" socket.
8. Install the vacuum line and the two fuel lines onto the pump. Slide the hose clamps on the 2 fuel lines toward the pump to secure.
9. Remove the clamps on each of the fuel lines installed in Step 1 above.
10. Start the engine and check for leaks. Repair any that are found. Properly dispose of any gasoline towels.

Replacing Gas Tank– Spartan Mower RT/SRT Series



Section 1 – Replacing Gas Tank



Safety:

- Place the mower in Park on level ground and turn off the ignition.
- Drain the gas tank in an approved gas container using a hand syphon pump.
- No open flames (*including smoking*) should be present during this procedure.

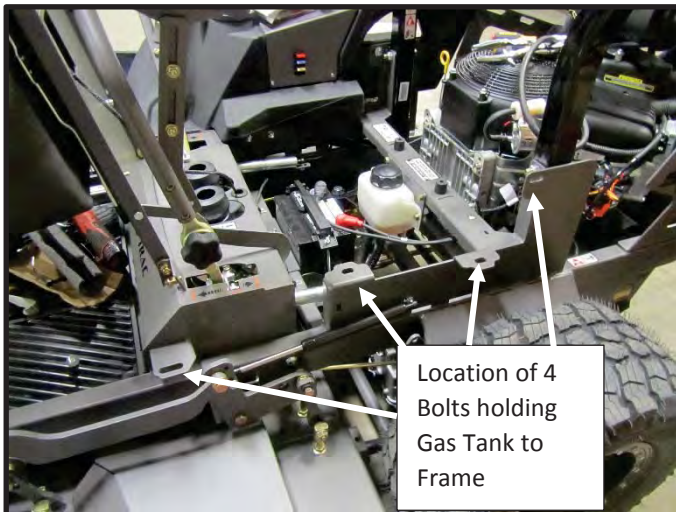
Note: This procedure describes how to replace the Gas Tank.

1. For easier access lift the seat forward and locate the gas tank on the driver's left hand side.
2. Clamp the fuel line to prevent gasoline from spilling out.
3. Using pliers loosen the clamp attaching the fuel line to the gas tank and remove the fuel line.
4. Remove the vent line from the fuel tank.

Replacing Gas Tank– Spartan Mower RT/SRT Series



Section 1 Cont. – Replacing Gas Tank



5. Using a 1/2" wrench remove the 4 bolts holding the gas tank to the frame as shown in the pictures.

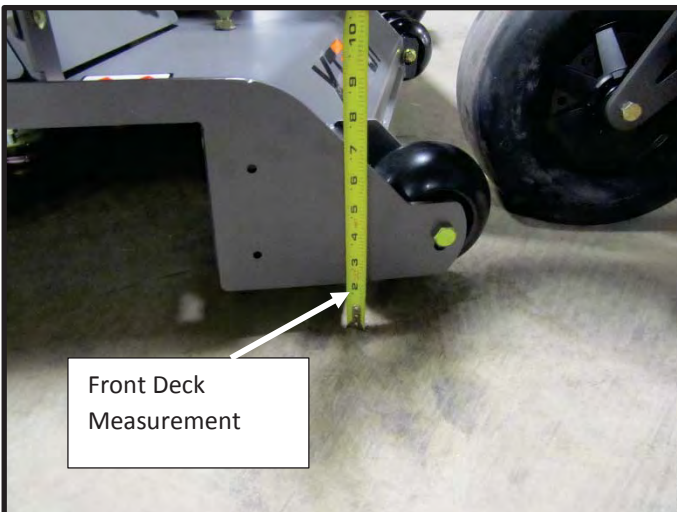
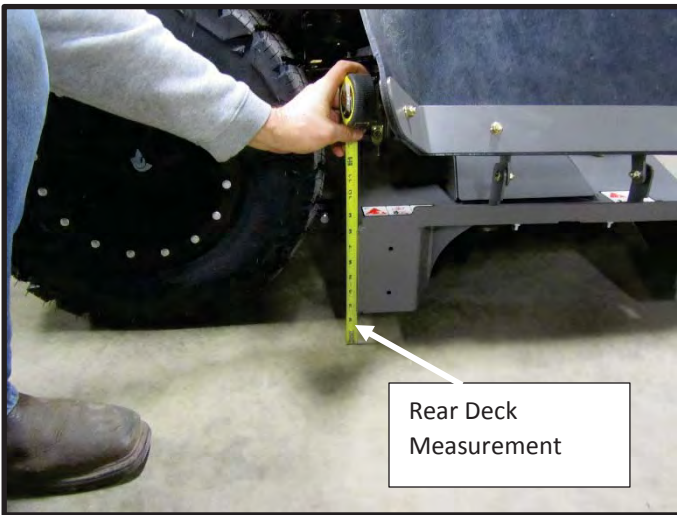
Note: Two bolts are on the inside with one bolt in front of gas tank. The last bolt is located under the gas tank over the top of rear wheel.

6. Once all 4 bolts have been taken out then remove the gas tank.
7. Install a new gas tank as specified by the parts manual by installing the 4 bolts and attaching to the frame. Tighten with a 1/2" wrench.
8. Connect the vent line and fuel line. Secure fuel line with its clamp using pliers.
9. Remove the clamp on the fuel line installed in step 2 above.
10. Fill tank and start engine.
11. Look for leaks around connections and stop engine and repair any that are found.



Leveling Mower Deck – Spartan Mower RT/SRT Series

Section 1 – Leveling the Mowing Deck

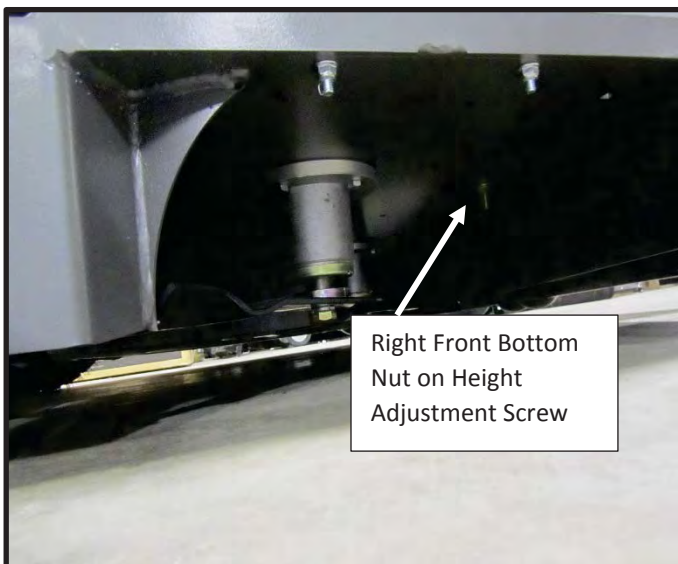
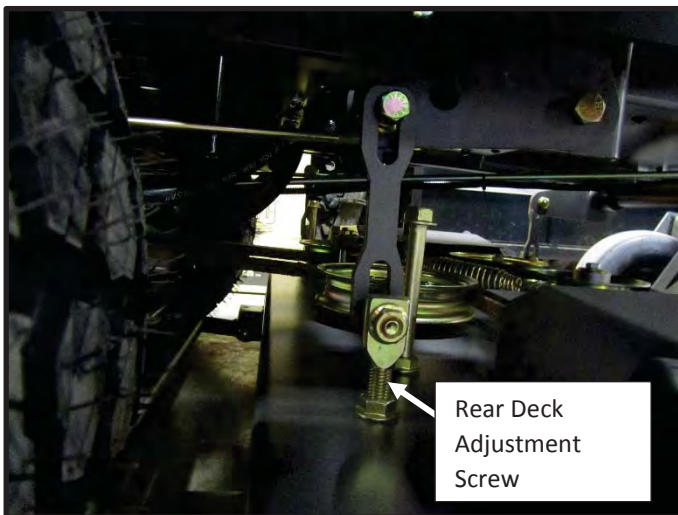
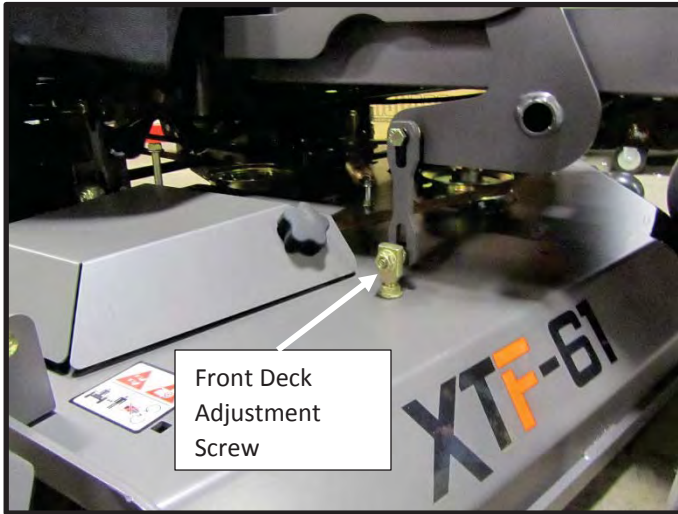


Safety: Place the mower in Park on a level concrete floor and turn off the ignition.

Note: It is critical to have a level smooth surface under all four tires to do this job properly.

1. Check all four tires for proper air pressure. Adjust to 12 psi for the back tires and 22 psi for the front tires as needed.
2. Lower the mower deck down as close to floor without touching. A setting of 2 normally works well.
3. Measure and record the distance from the floor to the bottom of the deck at all four corners of deck (2 at rear and 2 at front of deck) as shown in pictures.
4. A level deck should be within $\frac{1}{8}$ " from *side to side* on both front and rear of the deck. The front of the deck should be $\frac{7}{16}$ " lower than the rear of the deck on each side.

Section 1 Cont. – Leveling the Mowing Deck



5. If an adjustment is needed locate the four deck height adjustments screws on top of deck as shown.

6. If needed, adjust the front of the deck *first*. Start on one side of front deck and loosen bottom nut under deck on the deck height adjustment screw using a 3/4" wrench.



Leveling Mower Deck – Spartan Mower RT/SRT Series

Section 1 Cont. – Leveling the Mowing Deck

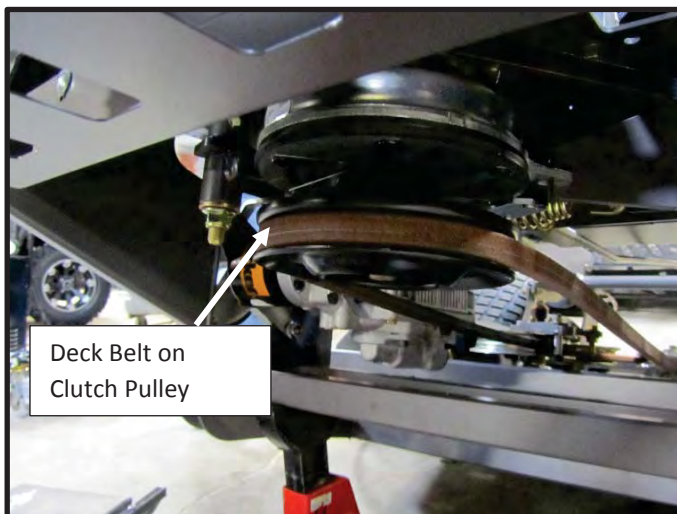


7. Adjust screw up or down using a 3/4" wrench on the nut on top of deck until desired height is reached. See picture.
8. Once adjusted use two 3/4" wrenches and tighten bottom and top nuts on the deck height adjustment screw.
9. Measure distance from deck to the floor for the front corner just adjusted to verify it has not moved and is where it needs to be. Repeat above steps if readjustment is needed.
10. Check the other front cover to verify front of deck is within 1/8" of each front corner. If not adjust the other front corner per steps above.
11. After the front of deck is properly adjusted measure the rear deck corners for proper height.
12. When adjusting rear deck corners adjust one corner at a time as done for the front corners until they are within 1/8" of each other and 7/16" higher than the front.

Replacing Deck Assembly – Spartan Mower RT/SRT Series



Section 1 – Deck Assembly Removal



Safety: Place the mower in Park on level ground and turn off the ignition.

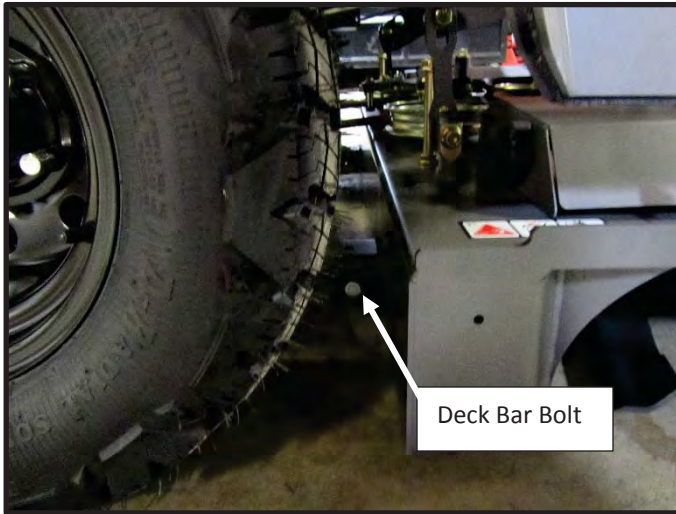
Note: This procedure describes how to remove the old deck assembly and replace with a new deck assembly equipped with new pulleys, etc. If deck pulleys or spindles need replacing then see procedure ***"Spartan Mowers – Replacing Deck Blade, Spindle, & Belt"***.

1. Remove the floor pan.
2. Lower deck down all the way to allow for more room on top of deck to work.
3. Remove the deck idler spring with a pair of pliers.
4. Take the deck belt off of clutch pulley at the rear of the mower.

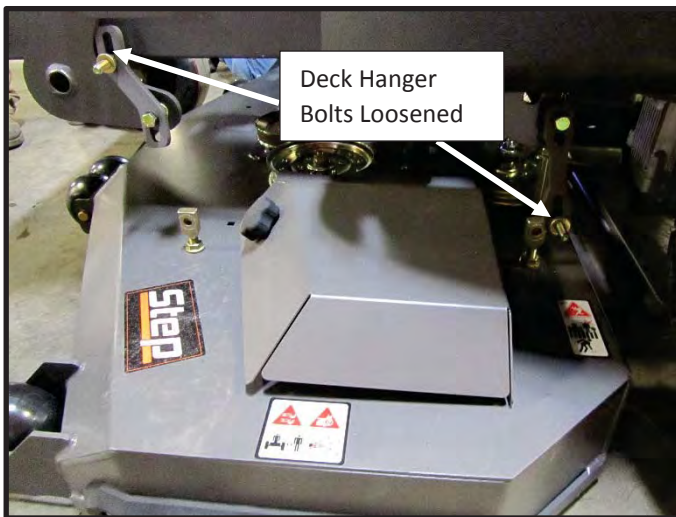
Replacing Deck Assembly – Spartan Mower RT/SRT Series



Section 1 Cont. – Deck Assembly Removal



5. Using a 3/4" socket and wrench remove the deck bar bolts (one on each side) at the rear of the deck.



6. Using an 11/16" socket and 5/8" wrench on the rear side remove the nuts on the 4 deck hanger bolts (2 on each side of deck).
7. Using a pry bar raise the deck slightly to allow slack to pull out the deck hanger bolts from the deck height adjustment stud as shown in the picture.

Note: Once the bolts are removed the mower deck links can be rotated up to allow for more clearance as shown on the left side in the picture.

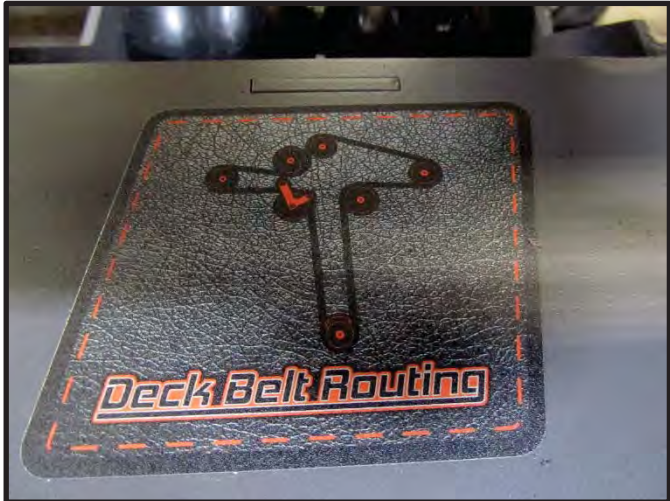
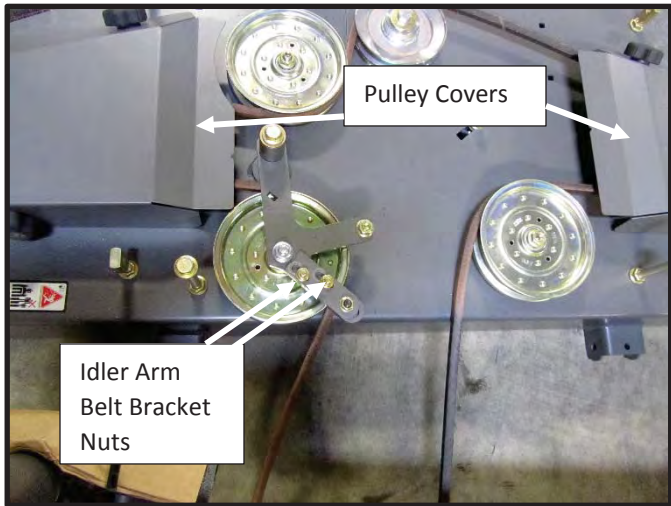


8. With the assistance of a second person raise the front of the mower and roll out the old deck assembly as shown.

Replacing Deck Assembly – Spartan Mower RT/SRT Series



Section 2 – Deck Belt and Deck Assembly Installation



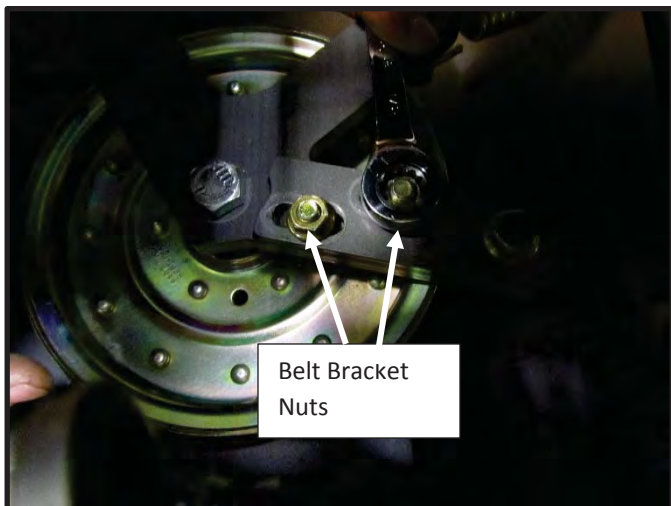
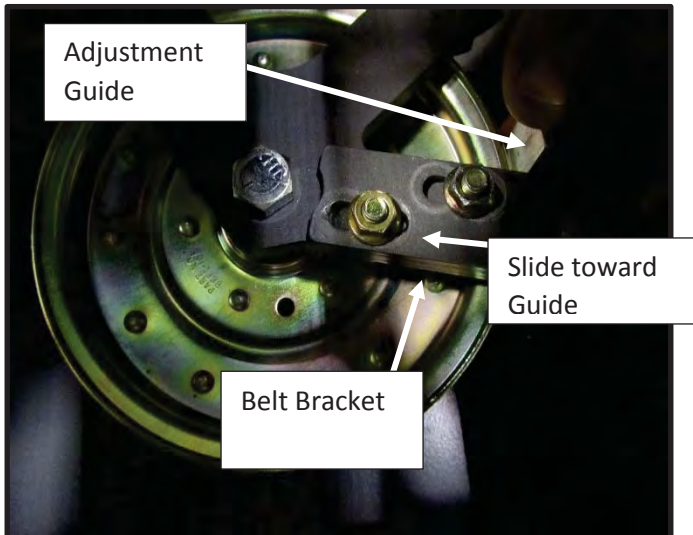
1. Obtain a new mower deck belt as specified in the parts manual.
2. Loosen the two knobs on each pulley cover and remove both covers.
3. With a 1/2" wrench loosen the two nuts on the idler arm belt bracket as pointed out in the picture.
4. Slide the idler arm belt bracket away from center of idler arm pulley to allow room to install belt on this pulley and inside of belt bracket.
5. Route the belt around the deck pulleys as shown on the *deck belt routing* diagram or as shown in the parts manual.

Note: The installation of the belt around the clutch pulley will be done later.

6. Install the two pulley covers.
7. As previously done with the assistance of another person, raise the front end of the mower and slide the new deck assembly with its belt under the mower.
8. Have the second person to raise the deck slightly using a pry bar for alignment when installing the 4 deck hanger bolts.
9. Using an 11/16" socket and 5/8" wrench on the rear install and tighten the nuts on the 4 deck hanger bolts.
10. Install and tighten the two bolts and nuts into the rear deck bars (on each side) with a 3/4" socket and wrench.
11. Slip the deck belt over the clutch pulley at the rear of the mower.



Section 3 – Adjusting Idler Arm Bracket

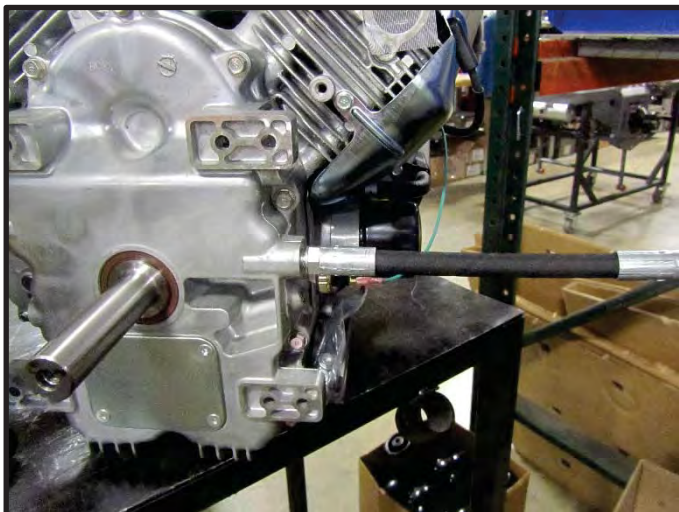
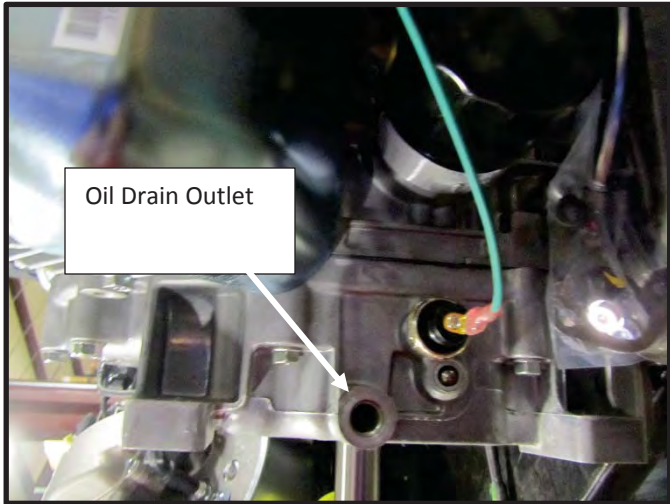


1. Using pliers install the deck idler spring.
2. Using a 1/8" plate (similar to one shown in picture) as an adjustment guide - place the plate between the belt bracket on the idler arm and the belt as shown.
3. To keep a 1/8" gap between the belt and the belt bracket - slide the belt bracket to the adjustment plate and tighten the 2 nuts on top of belt bracket with a 1/2" wrench.
4. Replace the floor pan.
5. Use procedure ***"Spartan Mowers - Leveling Mower Deck"*** to verify the new deck is level and for leveling deck as necessary.

Installing Oil Drain Hose – Spartan Mower RT/SRT Series



Section 1 – Installing Oil Drain Hose



Safety: Place the mower in Park on level ground and turn off the ignition.

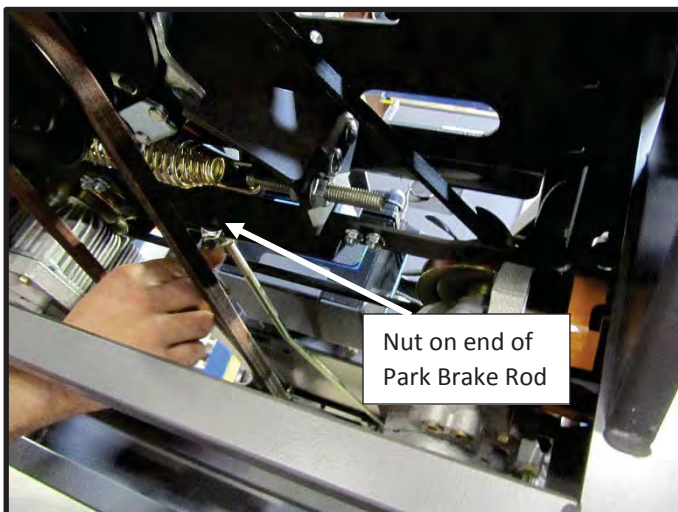
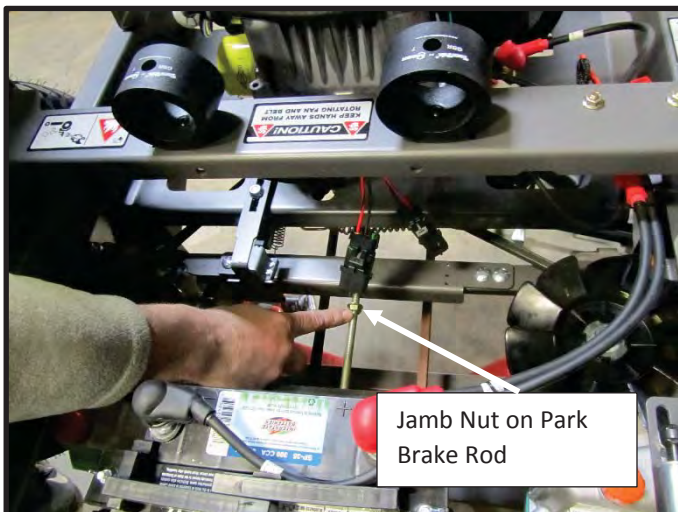
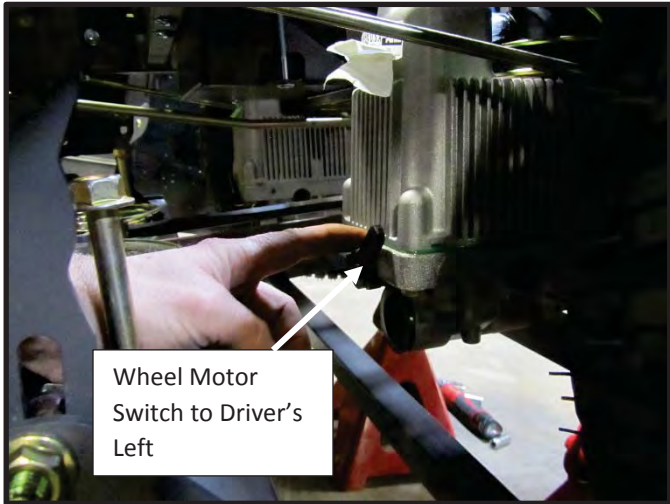
Note: This procedure describes how to install an oil drain hose for those mowers that only have the drain plug.

1. Locate the drain plug on the driver's right hand side on the engine.
2. Remove the drain plug and drain engine oil into a catch pan.
3. Secure an oil drain hose (PN 416-0061-00) from Spartan Mower Manufacturer.
4. Ensure the threaded end of the hose has an O-ring gasket on it and a cap on the opposite end. Screw the hose into the oil drain outlet. Tighten with a wrench.
5. Route the hose to the rear of the engine frame and secure it with a clamp.
6. Add engine oil and start engine to verify there are no leaks.
7. Properly dispose of old engine oil.

Adjusting the Park Brake – Spartan Mower RT/SRT Series



Section 1 – Adjusting the Park Brake



Safety: Place the mower in Park on level ground and turn off the ignition.

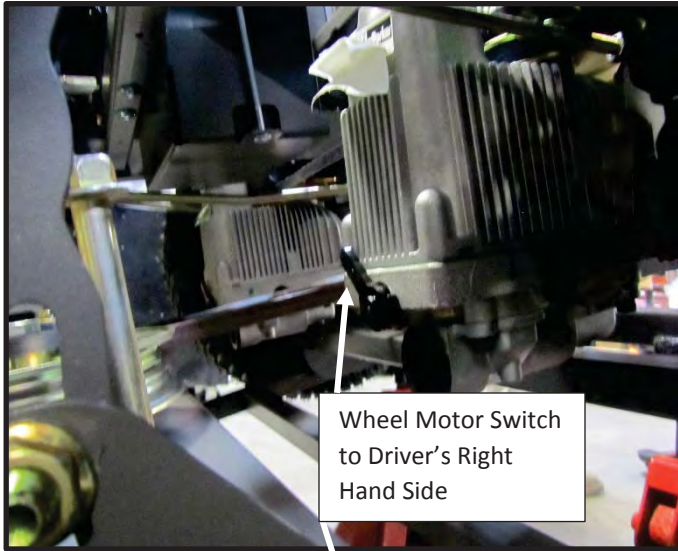
Note: This procedure describes how to adjust the park brake. This can be done with the wheel on or off and either rear side.

1. Jack up the rear end and install jack stands.
2. Release the Park Brake.
3. Flip **both** wheel motor switches to the driver's left hand side as shown in picture.
4. At this point you should be able to manually rotate the rear wheel or drum.
5. Using a 9/16" wrench loosen the jamb nut on the park brake rod.
6. Tighten the end nut on the park brake rod with a 9/16" wrench until the brakes begin to drag. Then loosen it about 1/2 rotation to keep it from dragging.
7. Tighten the jamb nut with a 9/16" wrench.
8. Set the park brake and see if the back-wheel locks when turning by hand. If it does lock, then repeat steps 5 - 7.

Adjusting the Park Brake – Spartan Mower RT/SRT Series



Section 1 Cont. – Adjusting the Park Brake

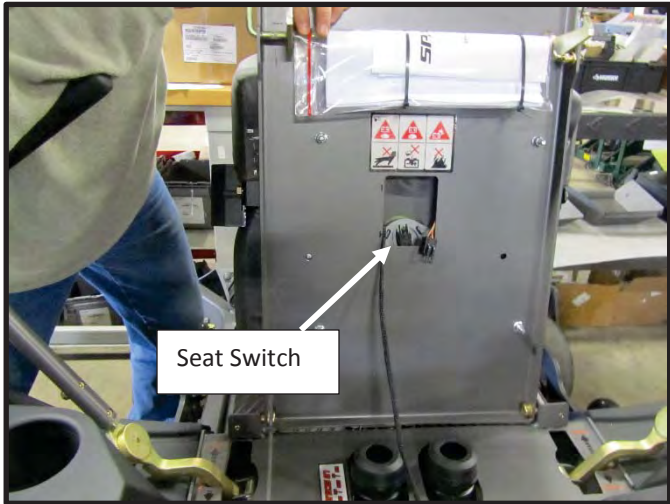


9. Flip **both** wheel motor switch to the driver's right hand side.
10. Using a jack remove jack stands and lower the rear end to the ground.

Replacing the Seat Safety Switch – Spartan Mower RT/SRT Series



Section 1 – Replacing the Seat Safety Switch



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the seat safety switch.

Safety: The seat switch is an important safety feature and should be replaced and ***not bypassed*** if it stops working properly.

1. Raise the seat and unplug the switch.
2. Using a 1/2" socket remove the 4 nuts holding the seat in place for access to the switch.
3. Using a phillips screw driver remove the 2 screws holding the switch in place.
4. Replace the switch with a new one as provided by the Parts Manual and secure with the 2 screws.

Replacing the Seat Safety Switch – Spartan Mower RT/SRT Series



Section 1 Cont. – Replacing the Seat Safety Switch

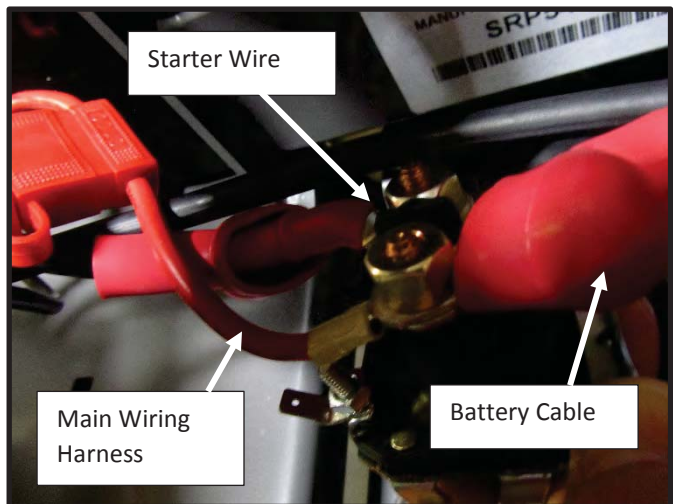
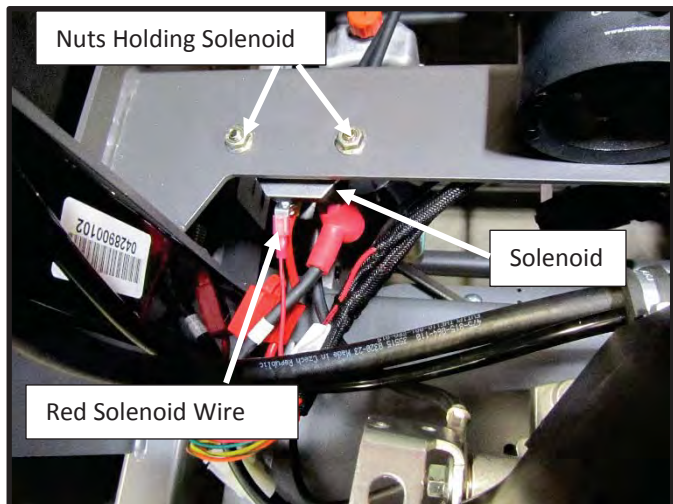


5. Attach the seat back to the stand by inserting the 4 bolts through the holes and attaching with the nuts.
6. Tighten the 4 nuts with a 1/2" socket.
7. Plug the seat switch in.
8. Verify it is working properly by sitting on seat and then starting the engine.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series



Section 1 – Replacing Starter Solenoid



Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the Starter Solenoid and the Starter for Briggs 25 and 27 Hp engines and for the Kohler 26 Hp engine.

1. Lift the seat forward and locate the battery and starter solenoid under frame on the left hand side.
2. Using a 7/16" socket and wrench disconnect the battery cable on the negative battery post and set it to the side.
3. Disconnect the red solenoid wire from its clip on the solenoid as shown in the picture.
4. Using a 7/16" socket remove the 2 nuts on top of frame holding the solenoid.
5. Twist the solenoid around, slide back the protective boots, and remove the nuts on the 2 posts of the solenoid with a 1/2" wrench.
6. Note which wires are connected to which solenoid posts then remove these from the posts.
7. Replace the starter solenoid with a new one as specified in the parts manual.
8. Place the starter wire as shown in the picture over one post. Install nut and tighten with a 1/2" wrench.

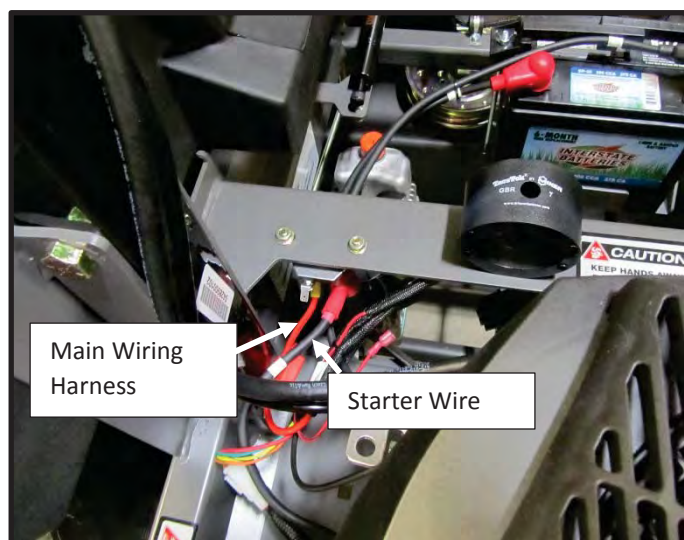
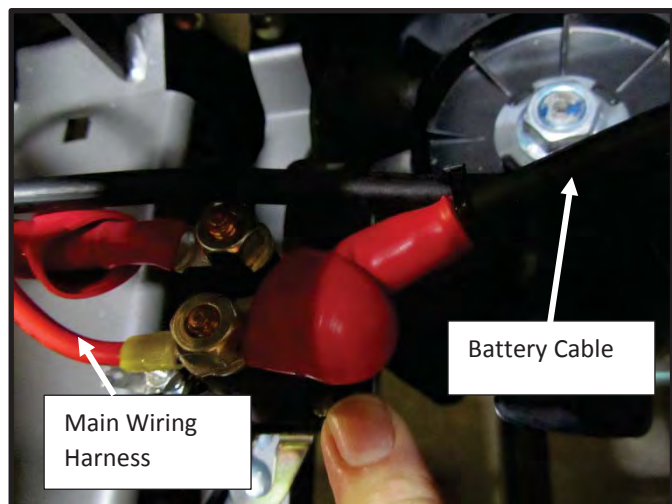
Caution: Do not overtighten.

Note: The starter solenoid is upside down while connecting the wires as shown.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series



Section 1 Cont. – Replacing Starter Solenoid



9. On the other starter solenoid post first place the main wiring harness connector. Next place the battery cable connector on the post. Add the nut and tighten with a 1/2" wrench.

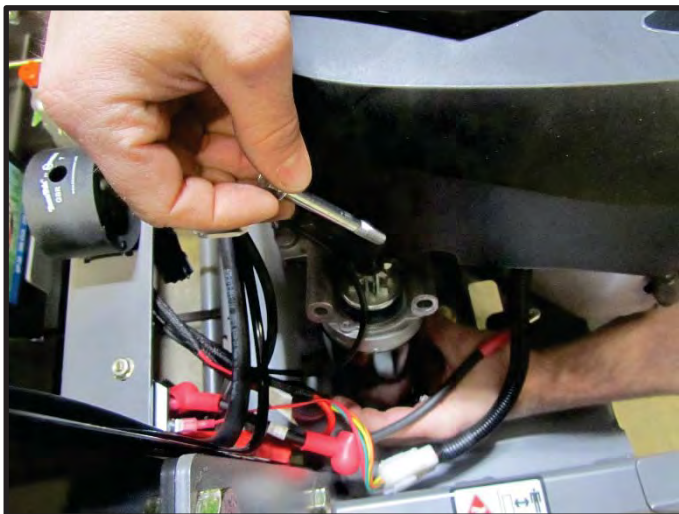
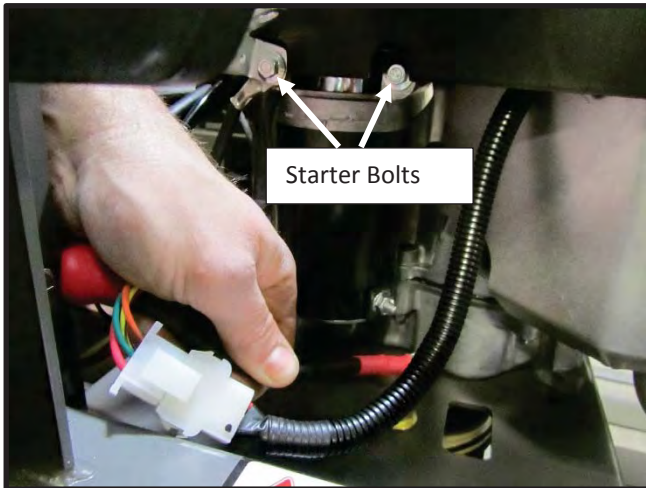
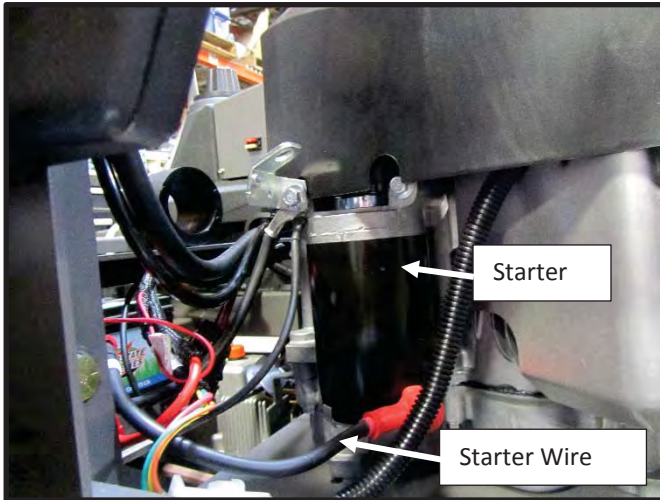
Caution: Do not overtighten.

10. Slide the protective caps over both of the starter solenoid posts.
11. Attach the starter solenoid to the frame using the bolts and nuts removed earlier and a 7/16" socket.
12. If replacing the starter, then skip to next section. If not replacing the starter at this point, then reconnect battery cable to the negative post.
13. Start engine to verify starter solenoid is working properly.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series



Section 2 – Replacing the Starter

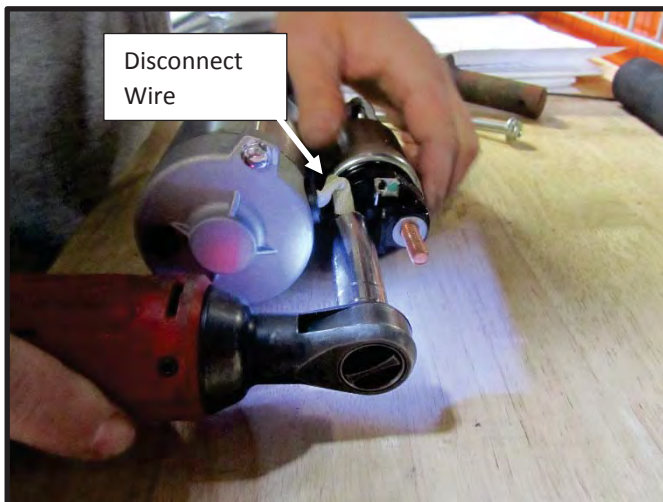
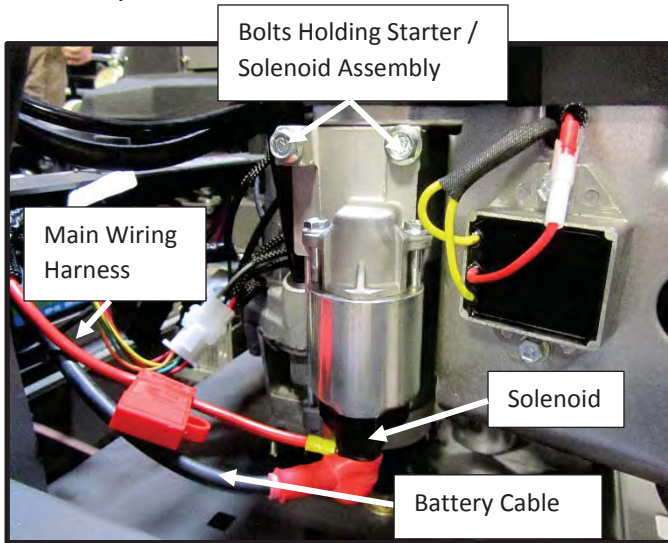


1. If the battery is connected then using a 7/16" socket and wrench disconnect the battery cable on the negative battery post and set it to the side.
2. Locate the starter at the rear of the mower as shown in picture.
3. Slide the boot back and using a 7/16" wrench remove the nut and disconnect the starter wire.
4. Remove the 2 bolts holding the starter to the engine using a 10-mm socket.
5. Remove starter and replace with a new one as specified in the parts manual.
6. Install bolts and start both by hand before tightening either one. Then tighten with a 10-mm socket.
7. Install the starter wire and tighten the nut with a 7/16" wrench. Slide the protective boot over the starter wire connection.
8. Reconnect the battery cable to the negative post on the battery.
9. Start the engine to verify the starter is working properly.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series



Section 1 – Removing Solenoid and Starter Assembly



Safety: Place the mower in Park on level ground and turn off the ignition.

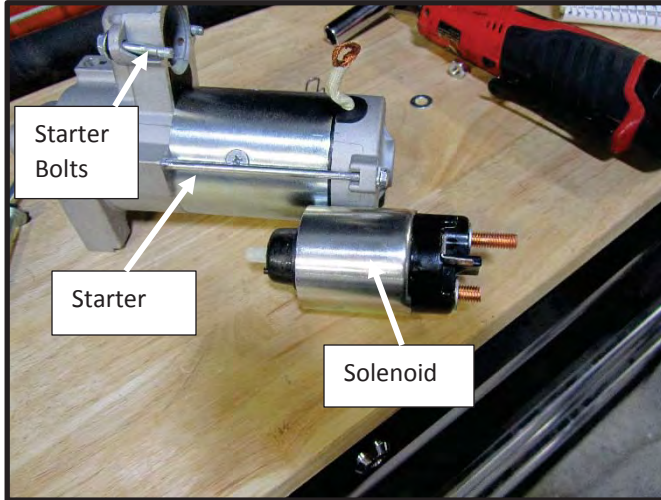
Note: This procedure describes how to replace the Starter Solenoid and Starter for Vanguard 32, 36, and 37 Hp engines and for the Kohler 33 Hp engine.

1. Lift the seat forward and locate the battery.
2. Using a 7/16" socket and wrench disconnect the battery cable on the negative post at the battery and set it to the side.
3. Slide the protective boot off the connector on the battery cable at the bottom of the starter/solenoid assembly. Remove the nut, lock washer, and slide washer using a 1/2" wrench and then remove the two wires as shown in the picture.
4. Using a 13-mm socket remove the 2 bolts at top of starter holding it to the engine frame.
5. Set the starter / solenoid assembly on a bench. Remove the nut from bottom post of solenoid as shown in picture with a 13-mm socket. Then disconnect the wire connecting the starter and the solenoid.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series



Section 1 Cont. – Removing Solenoid and Starter Assembly

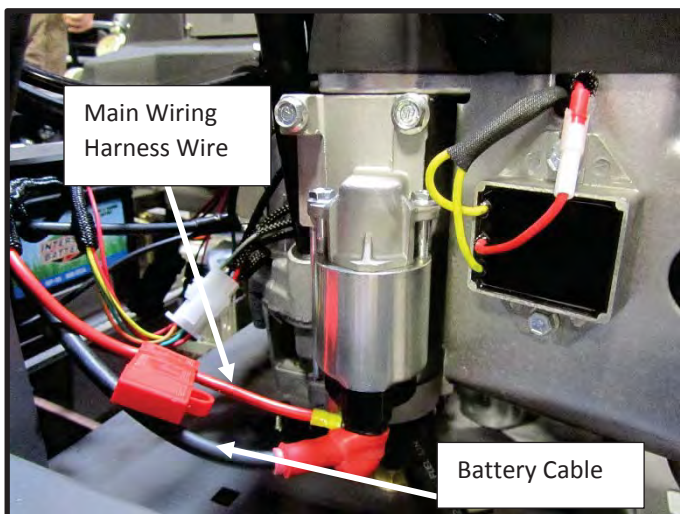
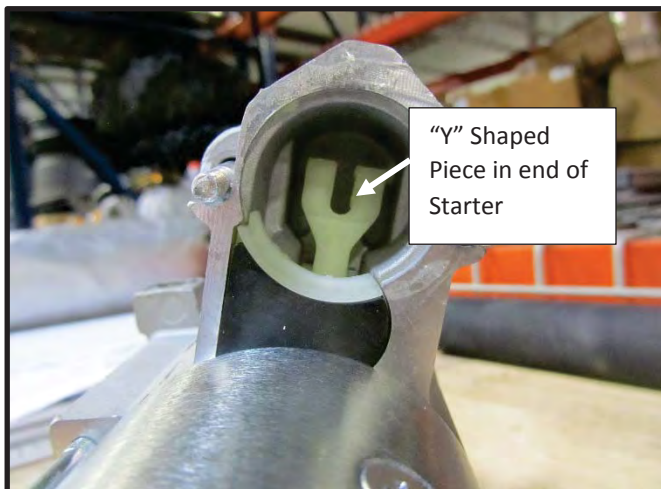


6. Using a 10-mm socket loosen the 2 bolts holding the solenoid to the starter and disconnect them.

Replacing Separate Starter and Solenoid – Spartan Mower RT/SRT Series

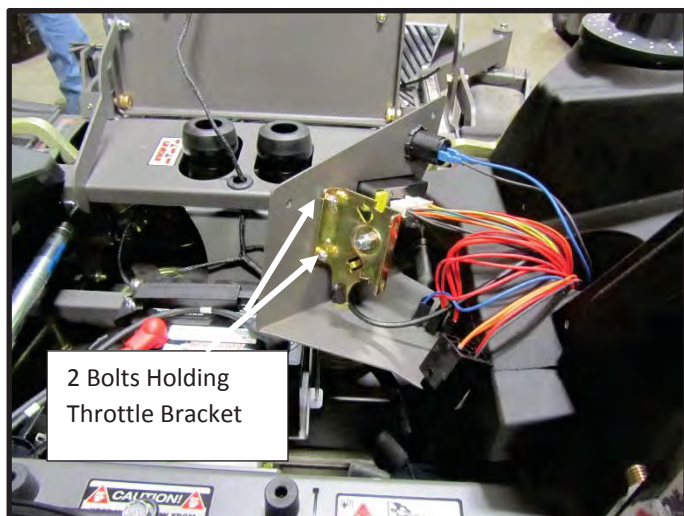
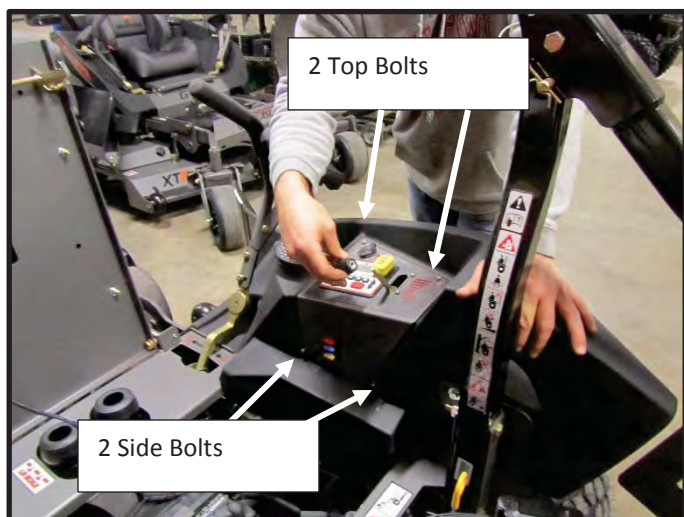
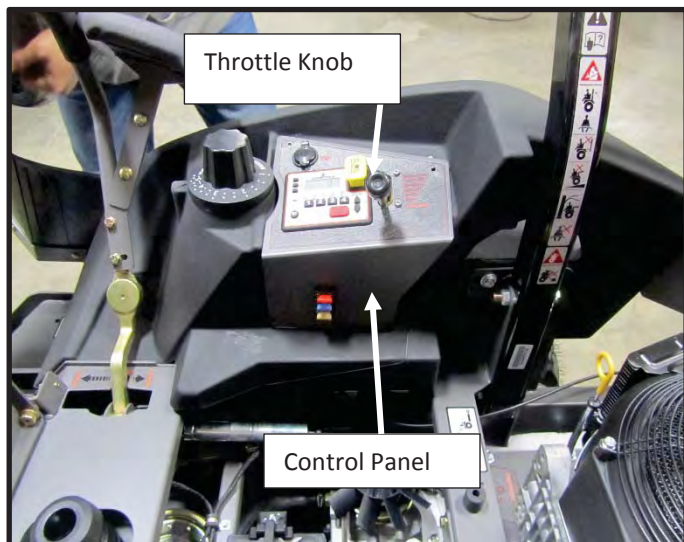


Section 2 – Installing the Solenoid and Starter



1. Replace the solenoid or starter as needed with a new one as specified by your part manual.
2. Note the round white plastic end at the end of the solenoid.
3. This round plastic end of the solenoid has to slide up and over the plastic "Y" shaped piece in the starter housing.
4. Once connected then push solenoid up into the starter.
5. Secure the solenoid to the starter by installing and tightening the 2 bolts with a 10-mm socket.
6. Install the wire at bottom of solenoid and tighten the nut with a 13-mm socket.
7. Attach the new starter / solenoid assembly into the engine frame using the 2 bolts and tighten with a 13-mm socket.
8. Install red wire from main wiring harness first to the bottom post on the solenoid followed by the positive battery cable. Then install slide washer, lock washer, and nut. Tighten nut with 1/2" wrench. Install protective boot.
9. At the battery connect the battery cable to the negative terminal and tighten with 7/16" socket.
10. Start the engine to verify the starter / solenoid assembly is working properly.

Section 1 – Removing the Throttle Cable

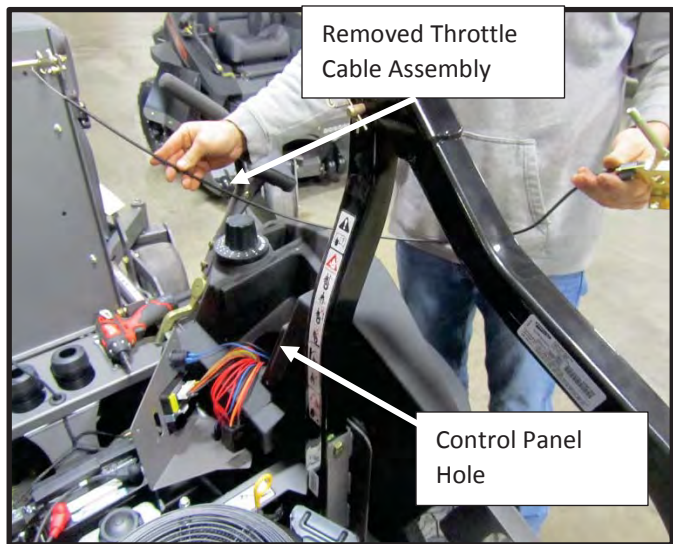
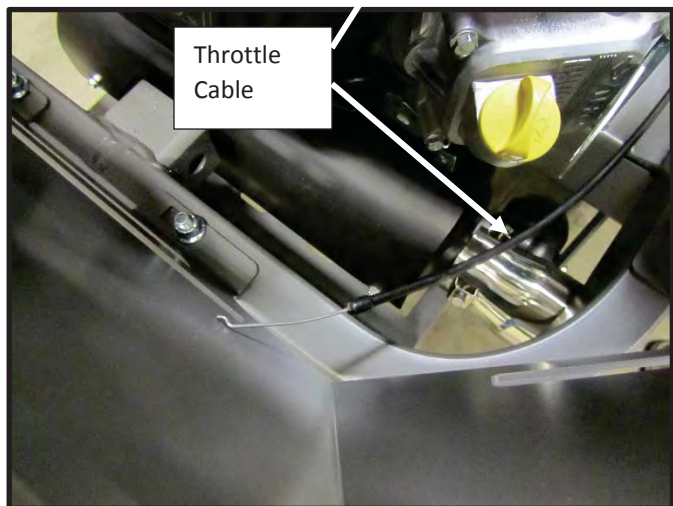
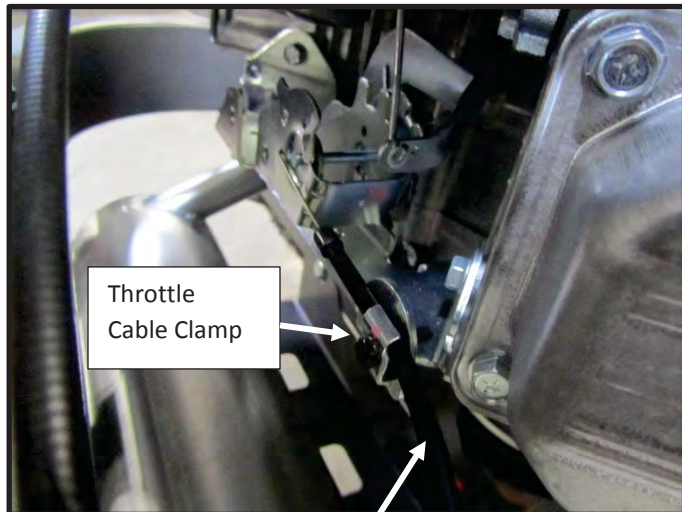


Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace the throttle cable.

1. For easier access lift the seat forward and locate the control panel on the driver's right hand side.
2. Screw off the throttle knob.
3. Using a 5/32" allen wrench remove the 4 bolts and lock washers holding the control panel in place.
4. Using a 5/32" allen wrench and a 10 mm wrench remove the two bolts holding the throttle cable bracket on the control panel.

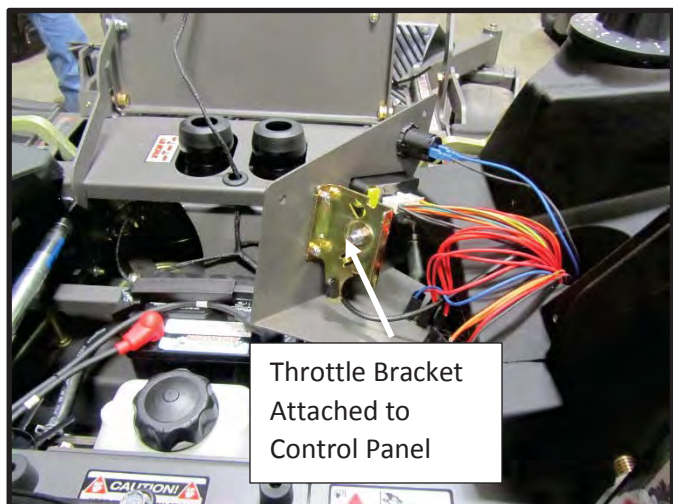
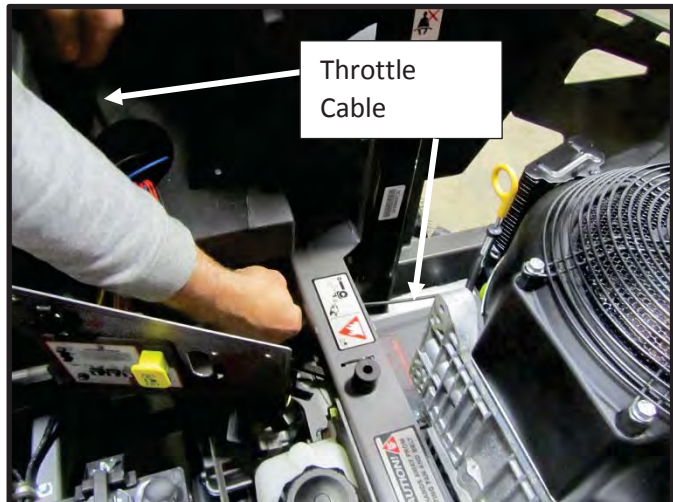
Section 1 Cont. – Removing the Throttle Cable



5. Locate the cable clamp at the rear of the mower holding the throttle cable in place. Using a 5/16" socket loosen the bolt on this clamp freeing the throttle cable.

6. Note the routing of the throttle cable and then remove the cable through the control panel hole.

Section 2 – Installing Throttle Cable Assembly



1. With a new throttle cable assembly as specified in the parts manual route the cable through the panel hole toward the back of the mower as shown.

2. ***Before attaching the cable to the rear of mower*** mount the throttle bracket to the control panel using 2 bolts and tighten with a 5/32" allen wrench and a 10 mm wrench.

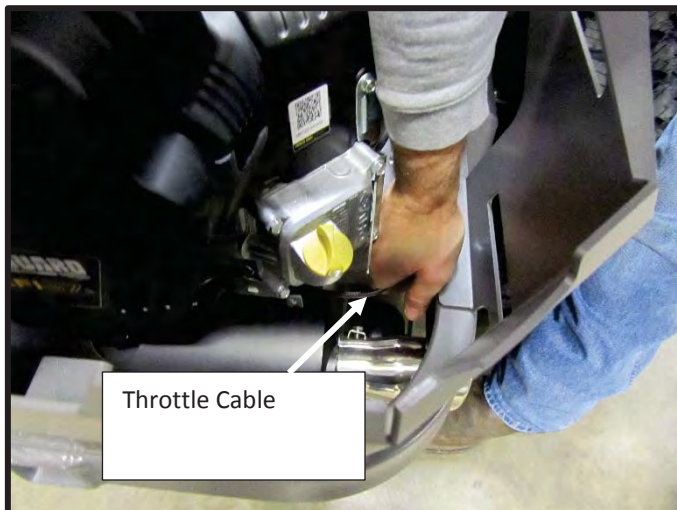
3. Install the control panel and secure with the 4 bolts and lock washers. Tighten with a 5/32" allen wrench.

Caution: Do not overtighten.

4. Screw on the throttle knob.

5. Raise throttle to its highest position.

Section 2 Cont. – Installing Throttle Cable Assembly



6. Insert end of cable into cable clamp at rear of mower.
7. Pull back on cable as shown in picture. With cable being pulled back tighten the cable clamp bolt with a 5/16" socket.

Caution: Do not overtighten.

Note: This sets linkage to its wide open position when throttle lever is in its upper most position at the control panel.

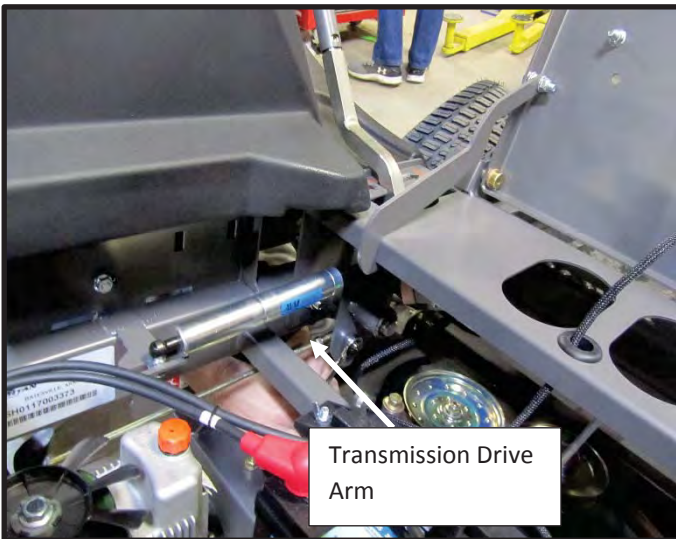
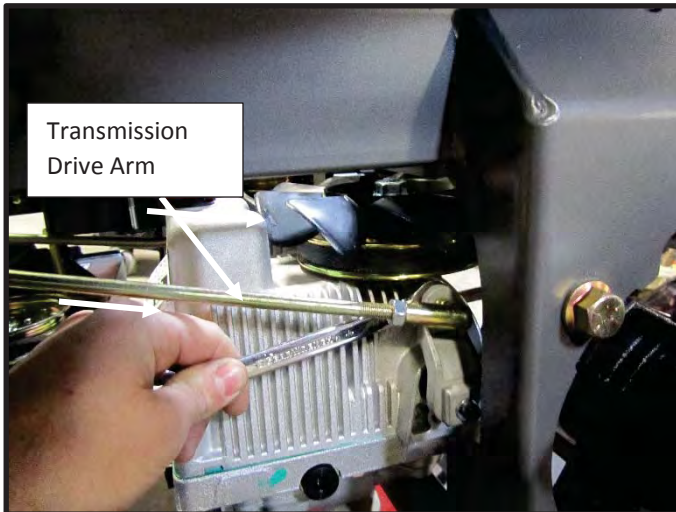
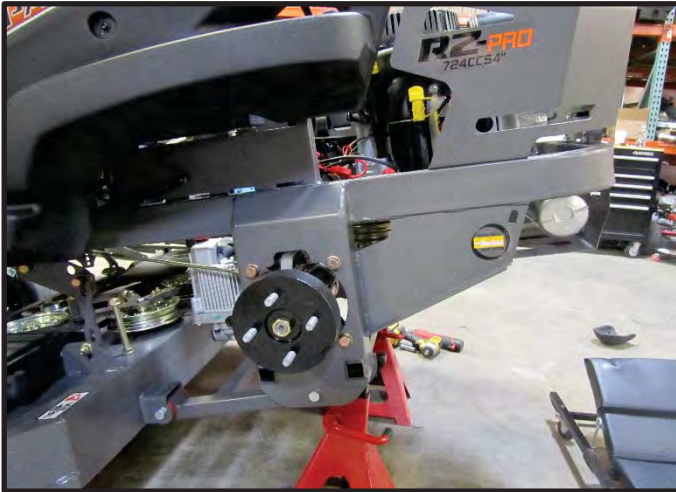
8. Start the engine and check the RPM.

Note: The engine should not exceed 3500 RPM when throttle is wide open. If it does repeat steps 7 and 8 above allowing less slack in the cable until a max of 3500 RPM is achieved when the throttle lever is in its upper most position at the control panel.

Replacing Wheel Motors – Spartan Mower RT/SRT Pro and HD Series



Section 1 – Removing Wheel Motor



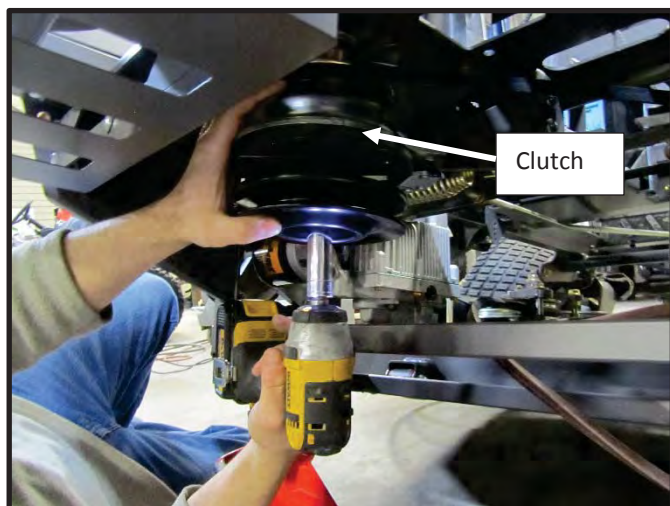
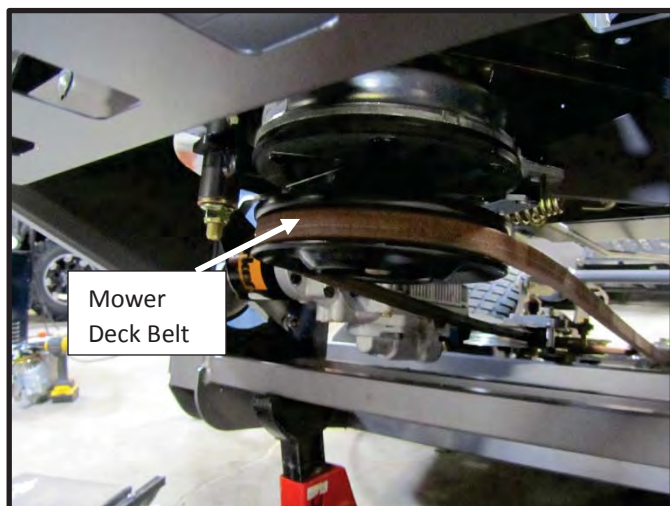
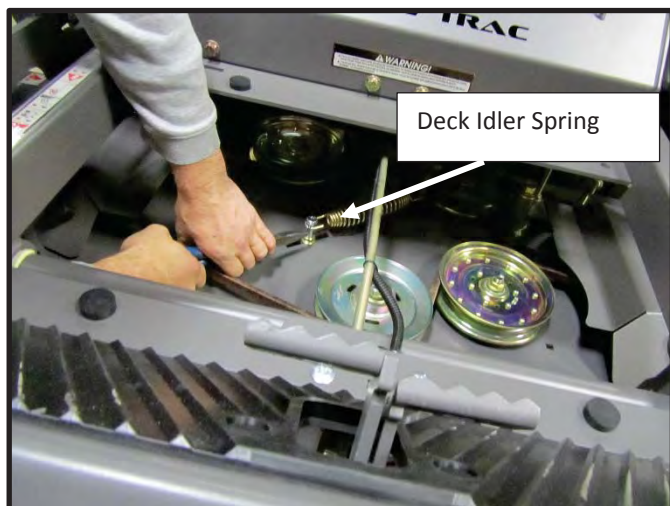
Safety: Place the mower in Park on level ground and turn off the ignition.

Note: This procedure describes how to replace and adjust the wheel motors. The Parts Manual description for this is a hydrostatic transmission but the term wheel motor will be used here.

1. Jack the rear end up and install jack stands.
2. Lower the deck all the way down.
3. Release the park brake.
4. Using 17 mm socket remove the 4 lug nuts from the wheel of the side that needs its wheel motor assembly replaced.
5. Remove the wheel.
6. Using a 1/2" open end wrench loosen and remove the rear nut holding the transmission drive arm.
7. Next using the 1/2" wrench remove the nut at the front of this drive arm and then remove the drive arm.



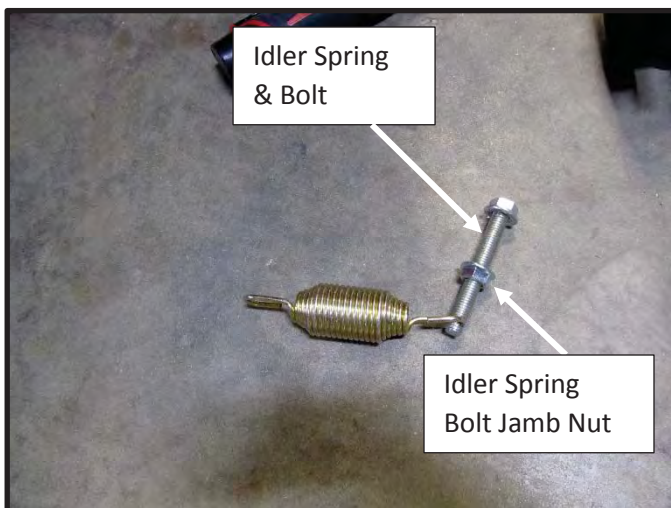
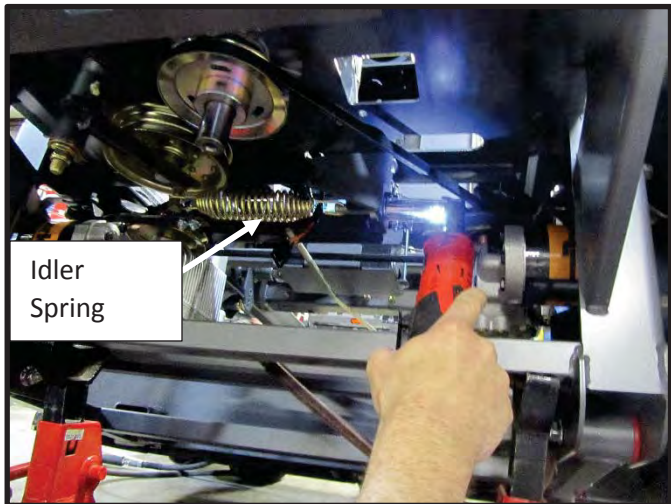
Section 1 Cont. – Removing Wheel Motor



8. Remove the front floor pan.
9. Remove the deck idler spring with a pair of pliers.
10. Remove the mower deck belt from the clutch.
11. Using a 5/8" socket remove the bolt holding the clutch.



Section 1 Cont. – Removing Wheel Motor



12. Lower clutch down and unplug it.

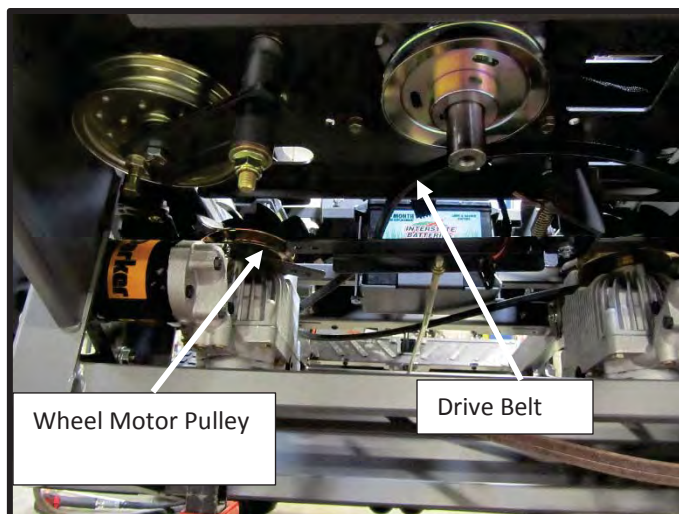
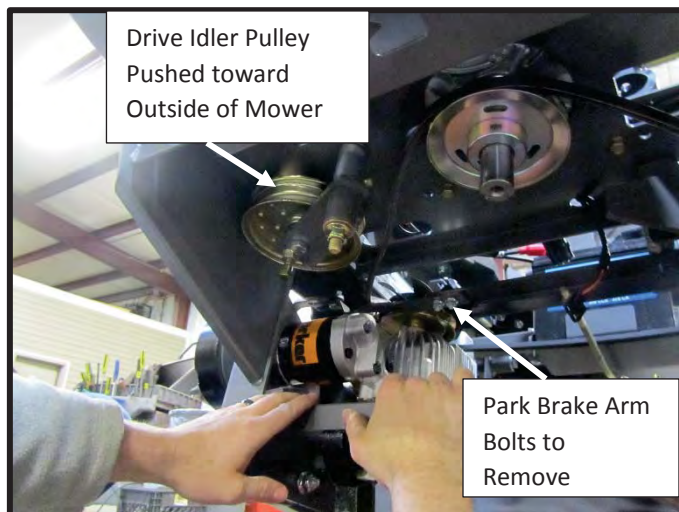
13. Use a 3/4" socket loosen the end nut on the idler spring bolt.

14. Remove the idler spring and bolt.

Replacing Wheel Motors – Spartan Mower RT/SRT Pro and HD Series



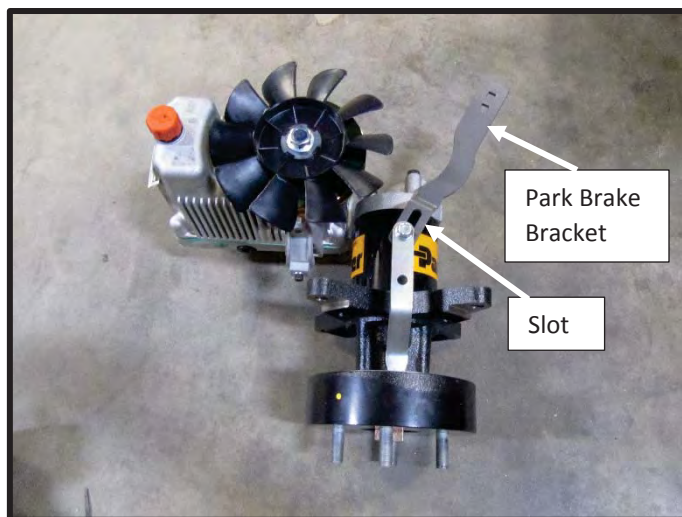
Section 1 Cont. – Removing Wheel Motor



15. Push drive idler pulley toward outside of mower to remove tension from drive belt.
16. Using 1/2" wrench remove 2 nuts and bolts from Park Brake Arm.
17. Remove drive belt from the wheel motor pulley.
18. Using a 3/4" socket on outside and 3/4" wrench on back side remove the 4 bolts holding the wheel motor in place.



Section 1 Cont. – Removing Wheel Motor



19. Push the wheel motor assembly through the wheel hole and bring out through the front of the wheel location as shown in picture.

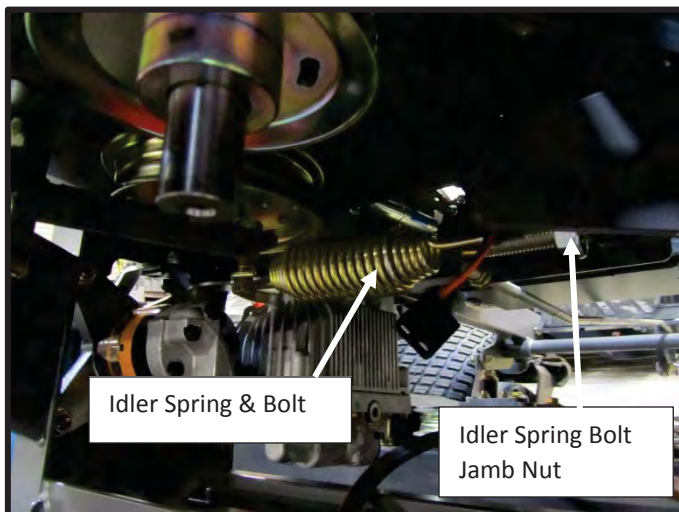
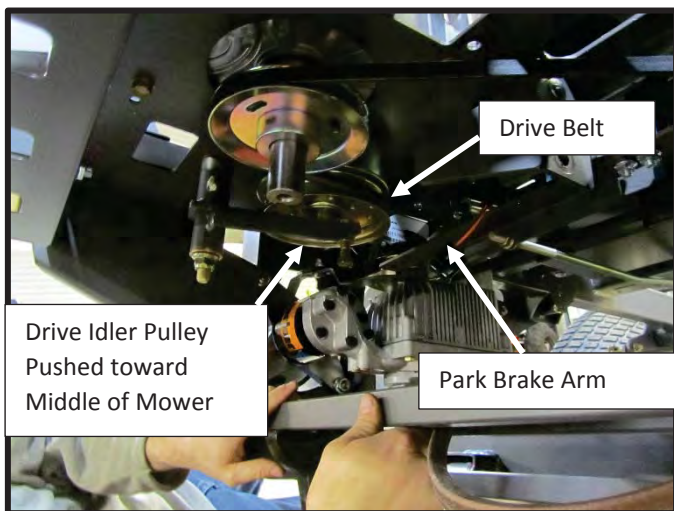
20. Use a 1/2" socket to loosen lock nut on park brake bracket from the old wheel motor assembly and remove it.

21. Install the park brake bracket on the new wheel motor assembly.

Note: Do not overtighten. The bracket needs to be able to slide along the slot.



Section 2 – Installing New Wheel Motor



1. Install the new wheel motor assembly in the same manner as taken out - by placing it through front of wheel location on frame and turning it back into its final location.
2. Install all of the 4 bolts by hand first when mounting the wheel motor assembly to the frame. Then tighten using a 3/4" socket.

3. Route drive belt around the wheel motor pulley and push the drive idler pulley back toward the middle of the mower.

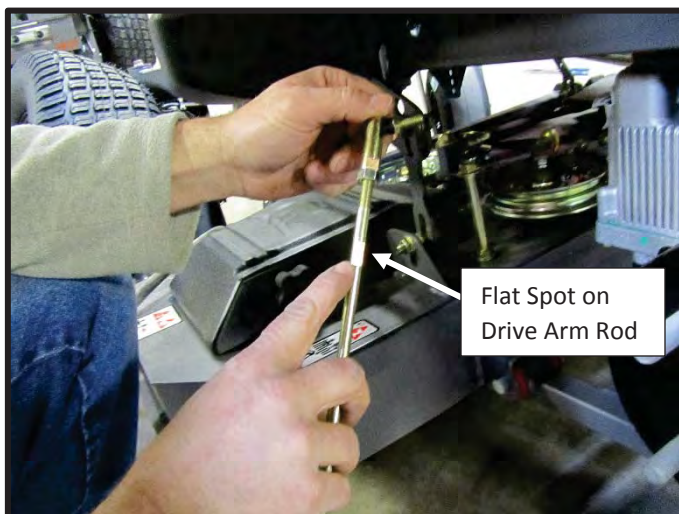
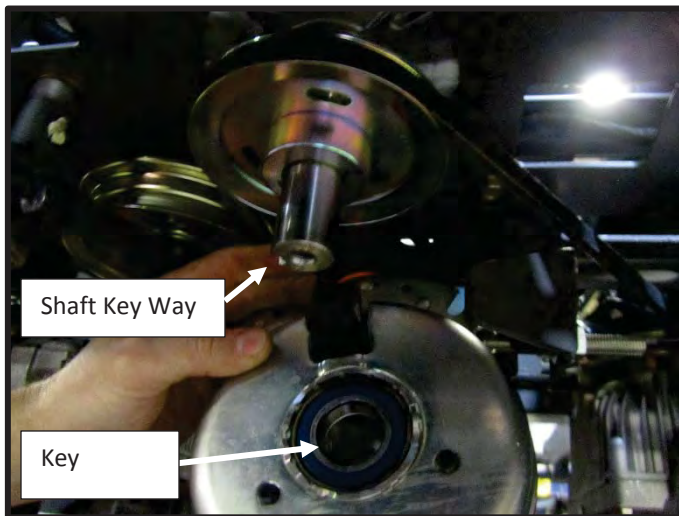
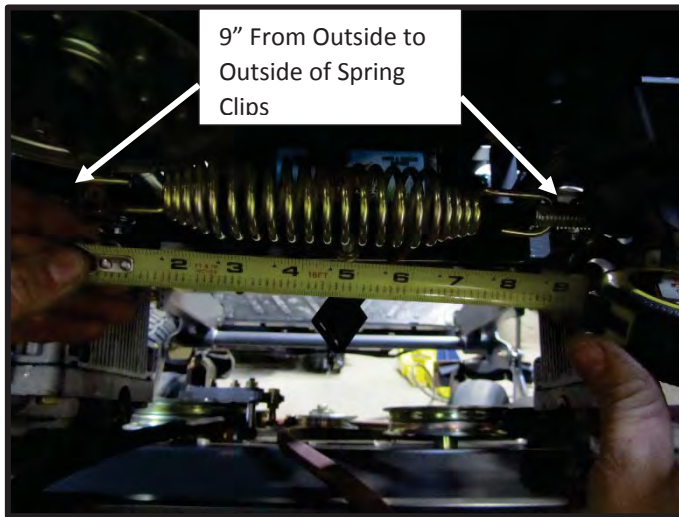
Note: If the drive belt needs replacing go to procedure ***"Replacing Drive Belt"*** for doing this.

4. Attach the park brake bracket on the wheel motor assembly to the park brake arm using 1/2" wrench for the 2 bolts and nuts removed earlier.
5. Attach the idler spring to its pulley and the bolt end to the frame. Secure the bolt with its nut and adjust the spring in the next step.

Replacing Wheel Motors – Spartan Mower RT/SRT Pro and HD Series



Section 2 Cont. – Installing New Wheel Motor



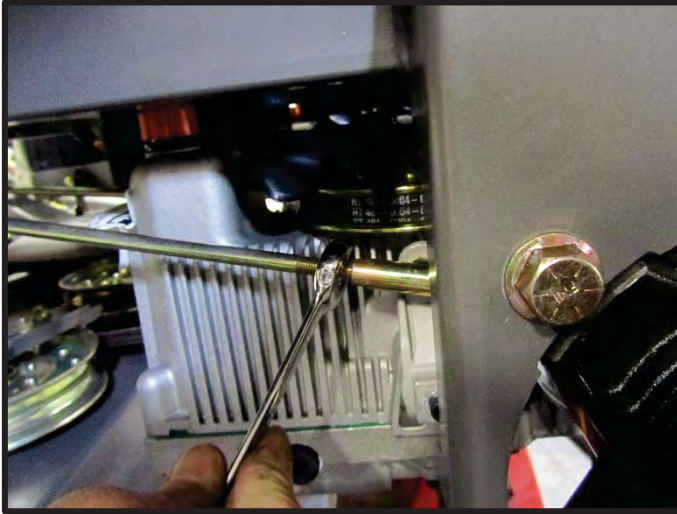
6. Adjust the spring length to 9" from outside to outside of the spring clips as shown in picture by using a 3/4 " wrench to tighten the bolt end nut.
7. Once the spring length is adjusted properly tighten the jamb nut on inside of spring bolt using a 3/4" wrench.
8. Attach wiring connector to clutch and mount the clutch by aligning key to groove in shaft as shown in picture.
9. Secure the clutch to the shaft using the lock washer and bolt removed earlier and tighten with a 5/8" socket.
10. Install mower deck belt on clutch.
11. Install idler arm spring in front with pliers and then put the front deck cover back on.
12. Install the transmission drive arm rod with the flat spot on arm located toward front of the mower. Using nuts removed earlier attach the ends of the arm to the frame and tighten with a 1/2" wrench.

Note: Do not overtighten. Only snug up at this point.

Proceed to next section for adjusting the wheel motor.



Section 3 – Adjusting Wheel Motor



Note 1: This procedure can be done with the wheels on if an adjustment (if mower is creeping when in neutral) only is needed.

Note 2: This procedure must be done when a wheel motor has been removed or replaced.

1. Loosen the transmission drive arm rod jamb nuts on front end and rear end with a 1/2" wrench.

Note: The front end of rod has left hand threads and the rear end has right hand threads.

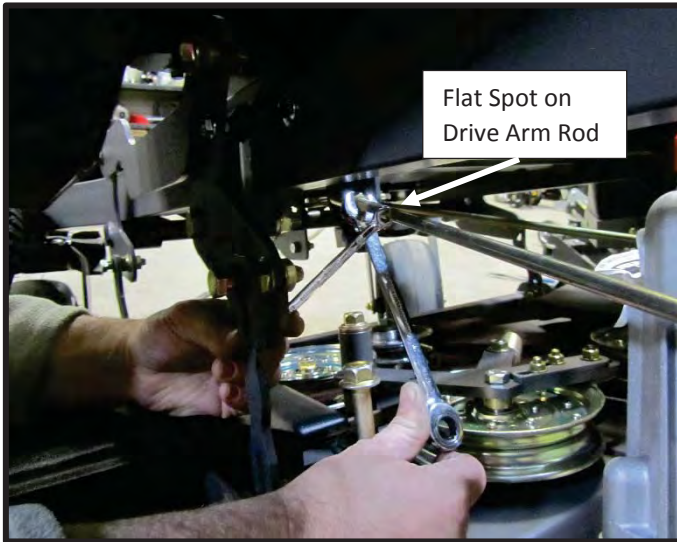
2. With the rear end still on jack stands lift the seat. Disconnect the switch and install a jumper as shown.

Caution: Installing a jumper should only be done during this adjusting wheel motor step.

3. Set the Park Brake.
4. Start engine and bring to maximum throttle.
5. Release the Park Brake.
6. Pull back on the drive arm to start the wheel / drum rotating and then move the drive arm to neutral.
7. Once the drive arm is released and back in neutral normally the wheel should stop rotating. If the wheel stops then skip down to step 10. If the wheel continues to rotate then the drive arm rod needs adjusting. Continue at the next step.
8. With the drive arm in neutral and the engine still running rotate the transmission drive arm rod by hand as shown in picture until it stops turning.



Section 3 Cont. – Adjusting Wheel Motor



9. Pull the drive arm back to engage the wheels and then release to verify the wheels come to a stop. If not then rotate the drive arm rod by hand again until it does.
10. **Stop the engine** to tighten the drive arm rod in place. Using a 1/4" open wrench on the flat space to hold the rod in place. Then tighten the jamb nuts on each end using a 1/2" wrench.
11. Repeat steps 3- 7 above to verify the adjustment has been done properly and that the wheels do not rotate when engine is in neutral.
12. Repeat this section as needed to adjust the other wheel motor on the opposite side of the mower. Also, repeat this complete procedure for replacing the opposite wheel motor.
13. Remove the seat switch jumper and reconnect the switch.
14. Install the wheels and tighten lug nuts with a 17mm socket.
15. Using a jack remove the jack stands and then lower the rear end to the ground.
16. Verify everything is working properly including the seat safety switch by sitting on the seat and starting the engine.