

Mulching Mower

Traction Drive Kit
Kit Number: 1904208

For Mulching Mower Models

34311

34312

34313



WARNING

- Before performing any repair procedures, stop the engine, wait for all moving parts to stop, and disconnect the spark plug wire and move it away from the spark plug. Remove the key from the keyswitch on electric start models. Allow engine to cool at least one hour before beginning repair procedures.
- The mower blade is sharp! Wear heavy work gloves or wrap blade with protective covering before working near blade.

Tools Required:

For most efficient repair times, have tools laid out and ready for use.

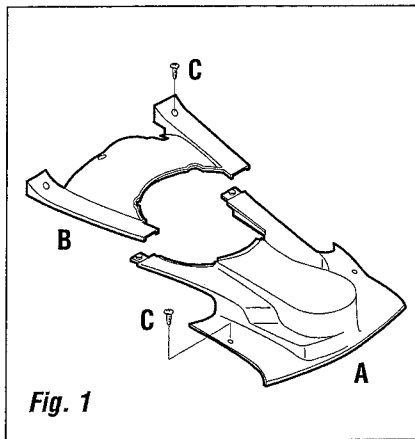
- | | |
|---|--|
| (1) Phillips head screwdriver | Open end wrenches: |
| (1) Needle-nose pliers | (1) 1/4" |
| (1) Vise grip pliers | (1) 5/16" |
| (1) Feeler gauge set - blade type | (1) 11/32" |
| (1) 12" ruler | (2) 7/16" |
| (1) Drill and 5/16" metal bit | (2) 1/2" |
| (1) Prick punch | (1) 7/8" |
| (1) Ball peen hammer | (1) 3/4" |
| (1) Soft Mallet | Socket wrenches: |
| Hex Key (Allen) wrenches: | (1) 3/8" Drive ratchet |
| (1) 5/32" | (1) 1/4" Drive ratchet |
| (1) 3/16" | (1) 9/16" Socket |
| | (1) 3/8" Socket |
| (1) 3/8" Torque wrench - 0-to-300 in/lbs. | (1) 3" Extension and (1) 5/16" Socket
or (1) 5/16" Nut driver |

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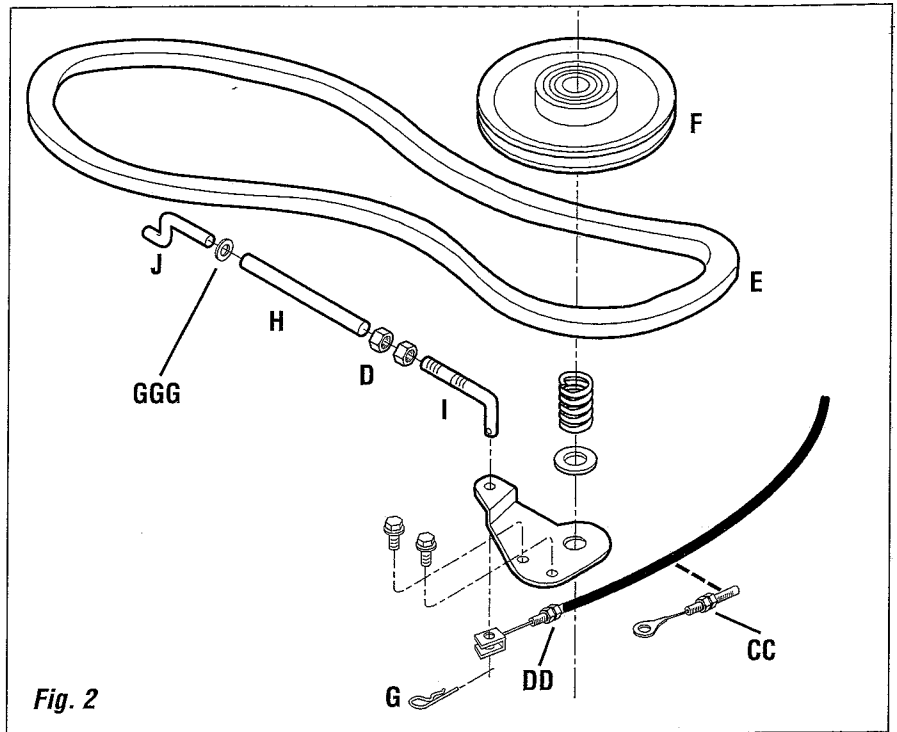
A. DISASSEMBLY - PART 1

NOTE: During the PART 1 disassembly and reassembly steps, all references to LEFT and RIGHT are when you are standing at the FRONT of the unit.

1. Remove front cover (A, Fig. 1) and rear cover (B) by removing five Phillips head screws (C). Save covers and screws.
2. Using two 7/16" wrenches, loosen two belt tension adjuster nuts (D, Fig. 2) and remove belt (E) from sheave (F).
3. Remove hairpin cotter (G, Fig. 2), sleeve (H), two adjuster nuts (D) and adjuster rod (I). Save hairpin cotter for reuse.



4. Inspect anchor rod (J, Fig. 2). If it is a "Z" style rod, leave it in place along with washer (GGG). If it is an "L" anchor rod, replace it with a "Z" anchor rod as follows:
 - a.) Working from beneath deck, position the long leg of the anchor rod into the rearmost space between the engine base fins which are located directly above the anchor rod hole.
 - b.) With the short leg facing forward, install the short end of the rod into the anchor rod hole and, without turning the rod in the hole, pivot the long leg forward and down along the rear base fin. Install washer (GGG, Fig. 2) on end of rod.



5. Use a block of wood to raise the front wheels off the ground.
6. Insert folded pieces of cardboard between the front axle arms (K, Fig. 3) and the mower deck to prevent the wheel axle nuts (L) from dislodging when the wheel axle bolts (M) are removed. Use a 9/16" socket to remove the wheel axle bolts. Pay careful attention to the assembly and remove wheels (N), washers (O) and wheel shields (P).
7. Secure the left side drive axle pinion (Q, Fig. 3) with vise grip pliers (protect pinions with cardboard) and remove the right side drive axle pinion (AE, Fig. 3) by removing the 3/16" Allen screw (S). Remove the shim washers (T). Do not reuse the 3/16" Allen screw.
8. Using a 5/16" nut driver or 5/16" socket, remove screw (U, Fig. 4) and clamp (V) securing clutch drive cable (W) to axle carrier (X). Save screw and clamp for reassembly. Disconnect clutch drive cable from ramp arm (Y).
9. Using a 1/4" wrench, remove the friction disc set screw (Z, Fig. 4). Do not reuse set screw during reassembly procedure.
10. Remove axle carrier (X, Fig. 4) and friction disc (AA). Determine if axle is a single D axle (with full length machined flat side) or a round axle (with keyway as shown in Fig. 4):
 - a.) If it is a round axle, save the axle for reassembly. Be sure to remove and save key (BB) before removing axle from unit (if available, use vise grip needle-nose pliers to remove key). The friction disc should not be reused.
 - b.) If it is a single D axle, replace it with a round axle during the reassembly procedure. Remove and save left side drive axle pinion and thrust washer (AC, Fig. 3) for reuse with round axle. The friction disc should not be reused.
11. Using two 1/2" wrenches, loosen the two adjustment jam nuts on the speed control cable (CC or DD, Fig. 2) and remove cable from deck.

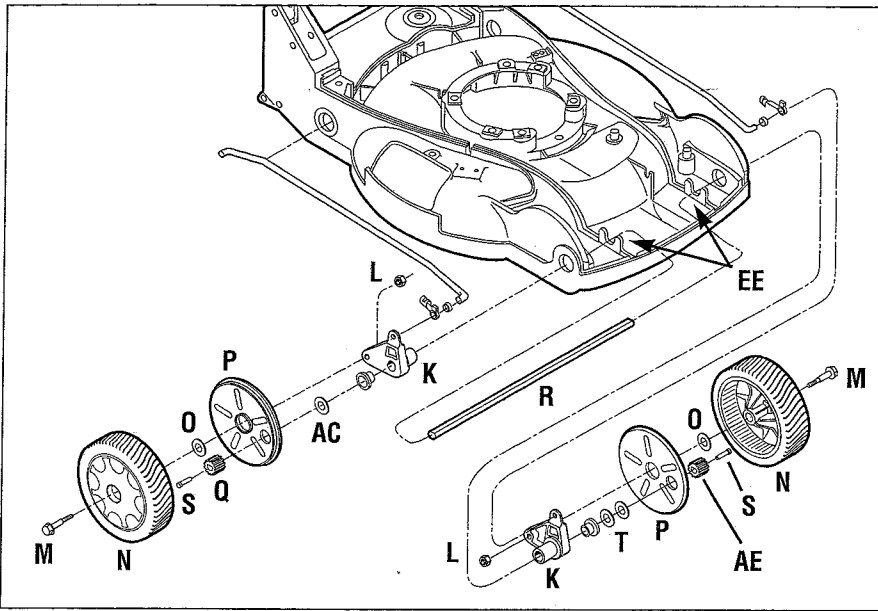


Fig. 3

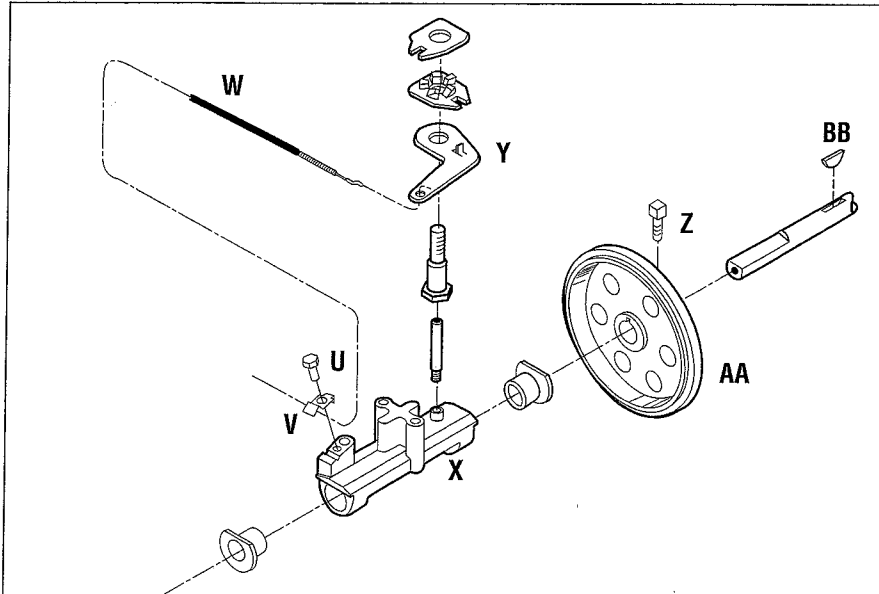


Fig. 4

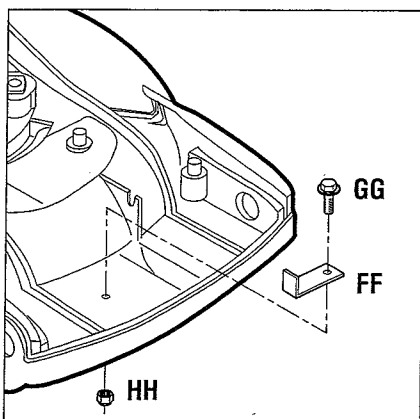


Fig. 5

- d). Drill a 5/16" hole through deck.
- e). Install stop bracket using 1/4"-20 screw (GG) and toplock nut (HH). Remove the round axle.

B. REASSEMBLY - PART 1

1. Install new or existing round axle, new carrier and new-style friction disc:
 - a). Be sure that key (BB, Fig. 4) is installed in axle (use pliers to install key).
 - b). Be sure carrier assembly is installed with cable clamp boss to the left side.
 - c). Be sure hub on friction disc is to the right side.
2. Position friction disc over key in axle. Do not tighten set screw in friction disc until instructed to do so.
3. If reusing round axle, reinstall the axle shims (T) and drive axle pinion (Q) on right side. If using new round axle, install axle thrust washer (AC) on left side, axle shims (T) on right side, and drive axle pinions on both sides (see Fig. 3). When securing pinions, be sure to use new 3/16" Allen screw(s) shipped in kit.
 - a). Hold drive axle pinions with vise grip pliers and tighten pinion screws to 70-to-90 in./lbs.
 - b). Using a soft mallet, lightly tap axle back and forth.
 - c). Remove the cardboard inserts from the axle arms and check that the axle end play is between .015" and .030". Reinstall the cardboard inserts when the end play is correct.
4. Reassemble wheels (N, Fig. 3), washers (O) and wheel shields (P). Tighten axle bolts (M) to 240/300 in./lbs. Do not pinch wheel shields when tightening axle bolts. Remove cardboard from behind axle arms.

12. Some units have molded axle support bosses in the deck (EE, Fig. 3). If unit does not have bosses, install a stop kit as follows:

- a). Install a round axle through both axle arms as a reference point.
- b). Position stop bracket (FF, Fig. 5) against inner deck rib. Make sure front edge of stop bracket is 1/8" away (towards engine) from axle.
- c). Hold the bracket in this position and center a prick punch in the bracket mounting hole. Make a drill guide indentation in the mower deck.

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C. DISASSEMBLY - PART 2

NOTE: During the following PART 2 disassembly and reassembly steps, references to LEFT and RIGHT are when standing BEHIND HANDLEBARS.

1. Cut the plastic ties holding cables to the left and right handlebars.
2. Install the cable clip (II, Fig. 6), to the inside of the deck rib as shown by the arrow in Fig.6.
3. Remove the speed control cable from the left side of the deck. On some units, this cable is routed through the handlebar tower and other units route the cable through the rear deck cover cutout. If the cable is routed through the tower, unpin the handlebars and move them forward toward the engine to ease the removal of the speed cable.
4. Disassemble the speed control assembly by using a 3/8", 7/16", and 5/16" wrenches and a 5/32" allen key. Refer to Fig. 7. Remove the button head screw (JJ), belleville washer (SS), flat washer (LL), bracket clamp (BB), nylon bushing (RR), control arm (NN), and top locknut (KK). Discard the top locknut and control arm. Remove the 5/16" screw and locknut that hold the cable clamp (YYY, Fig. 8) to the speed control bracket. Save the screw. Remove the black decal on the console. Remove speed cable.

D. REASSEMBLY - Part 2

1. Thread the new speed control cable down through the console. Spreading the cable adjusting nuts apart will make it easier to slide the cable through the opening in the console.
2. Refer to Fig. 7. Place the cable to the left of the mounting bracket and reassemble the speed control assembly with the plastic washer (RR) against the mounting bracket. (Be sure the shoulder of the plastic washer is facing the drive control arm.) Install the speed control arm

(NN), bracket clamp (BB), flat washer (LL), belleville washer (SS), and button head screw (JJ). Secure with a new toplock nut (KK) on the right side.

3. Mount the cable clip (YYY, Fig. 8), located on the speed control cable, to the left side of the mounting bracket by using the original hex head screw and a new locknut.
4. Route the speed control cable down the left handlebar and pass the cable through the tower. Position the cable next to the inside surface of the handlebar ahead of the lower handlebar pivot pin. Look inside the tower and be sure the cable is routed above the axle.
5. Route the BBC control cable along the left handlebar as before. Do not pass the cable through the tower.

E. DISASSEMBLY - Part 3

NOTE: During the following PART 3 disassembly and reassembly steps, references to LEFT and RIGHT are when standing BEHIND HANDLEBARS.

1. Loosen the two jam nuts (CC, Fig. 9) that hold the cable to the right handlebar bracket (DD, Fig. 9). Discard the cable (EE, Fig. 9), spring (FF, Fig. 9), and the bail (GG, Fig. 9).
2. a. Loosen the upper bolt (MM, Fig. 9) and nut that hold the blade clutch lever (BB, Fig. 9) to the right handlebar. Remove the lower nut and bolt. Discard the bolt. Install a new (longer) bolt, Part No. 1100811 (1/4"-20 x 1-1/2"), through the lower hole in the handlebar. Install two (2) 1/4" flat washers (KK, Fig. 9) on the bolt, followed by the blade clutch lever. Install the original nut. Do not tighten the nut yet.
b. Remove the upper bolt (MM) and nut that secure the blade clutch lever. Remove any washers that are on this bolt between the clutch lever and the handlebar. Some units have a washer at this location and it must be removed. Reinstall the upper bolt and nut and tighten them securely.

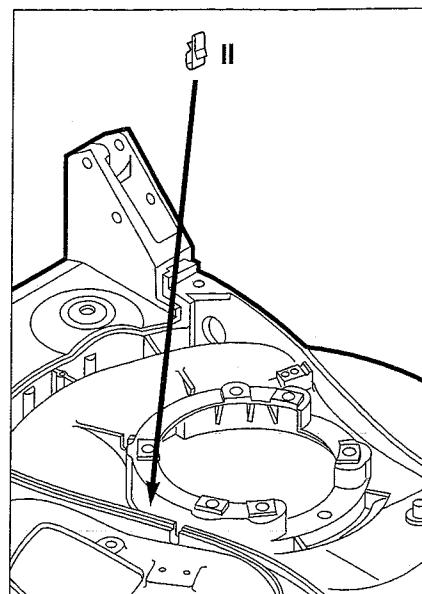


Fig. 6

c. Tighten the lower bolt and nut (LL, Fig. 9) securely. While tightening, you will notice that the two (2) flat washers will bend somewhat to conform to the handlebar's curved surface. Apply enough torque with your wrenches to the nut and bolt to cause the washers to bend.

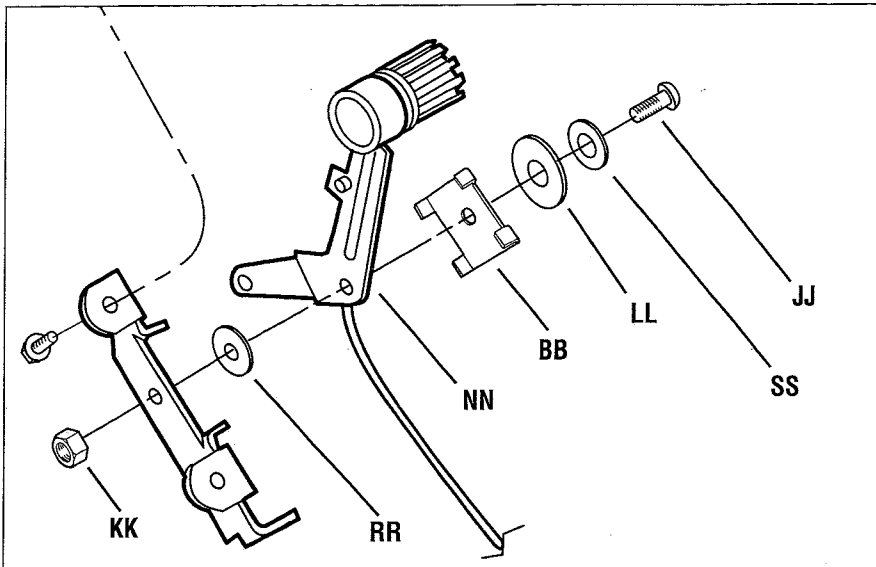


Fig. 7

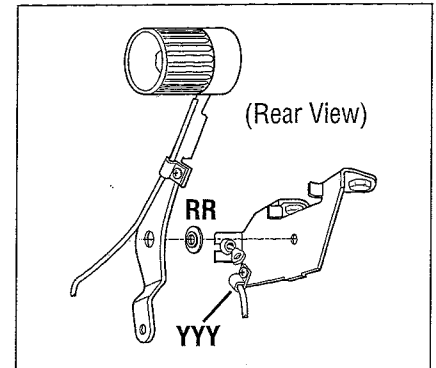


Fig. 8

F. REASSEMBLY - Part 3

1. Install a new clutch cable retaining clamp along the raised rib of the deck adjacent to the door stub (II, Fig. 6).
2. Refer to Fig. 9. Install a grip ring (JJ) and a pushnut (HH) on the new bail (GG). Install the new bail (GG) on the handlebar. Make sure the bushings (RRR) are in the holes in the handlebar. Route the new clutch cable (EE) along the right side handlebar without passing through the tower.
3. Refer to Fig. 9. Install the two (2) clutch cable jam nuts (CC) into the cable bracket (DD). Attach the spring (FF) to the eyelet at the end of the cable, and then around the end of the bail between the pushnut (HH) and the grip ring (JJ) from the top down. Make sure the open end of the springhook on the bail side is facing toward the ground. Then, using needle-nose pliers, crimp the hook until it closes enough to secure the spring. Crimp the end of the spring which is in the eyelet of the cable enough to keep it inside the eyelet. Check the function of the bail and make sure the spring can rotate freely when the bail is engaged.

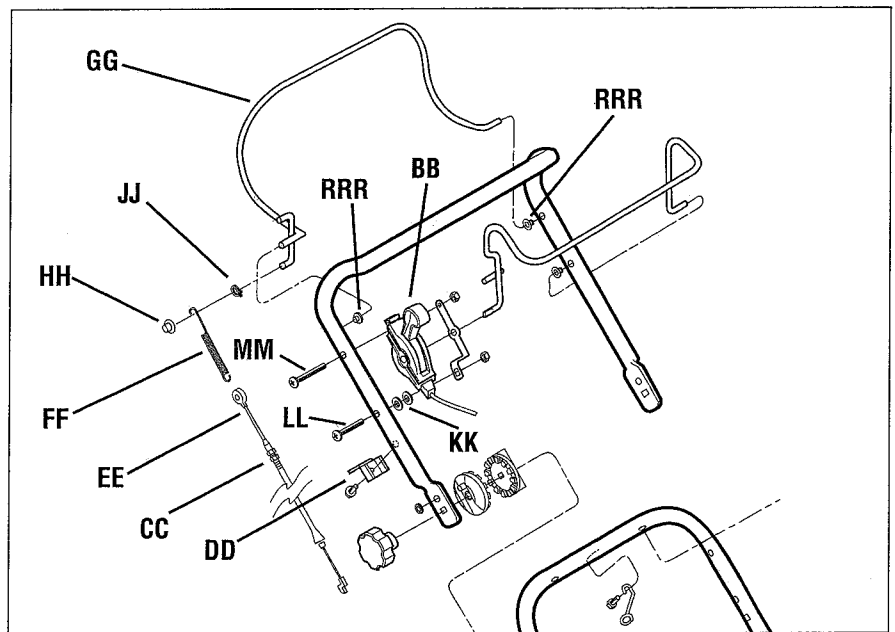


Fig. 9

4. Route the clutch cable along the right side of the deck and secure the cable in the cable clip adjacent to the door opening.
5. Reinstall the rear deck cover using the three previously removed screws. Make sure that the clutch control cable passes through the right side cutout and the BBC cable passes through the left side cutout. See Fig. 10.
6. Wire tie the two cables (clutch cable EE, Fig. 9, and BBC cable) to the upper hole in the right side handlebar lower section. Place a second wire tie in the lower hole (right side) and tie only the clutch cable. Place a wire tie around the speed

control cable in both holes of the handlebar (left side).

Install the black decal (Part No. 1769343) on the console over the speed control opening.

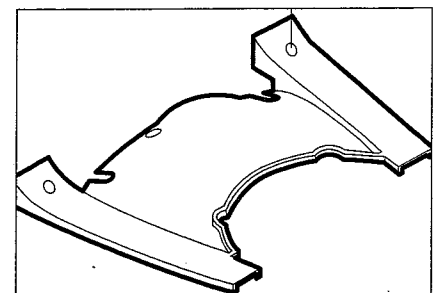


Fig. 10

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G. REASSEMBLY - PART 4

NOTE: During the PART 4 reassembly steps, all references to LEFT and RIGHT are from standing at the FRONT of the unit.

1. Install the "Z" fitting at the end of the clutch cable (QQ, Fig. 11) up and through the ramp arm.
2. Measure $4\frac{7}{16}$ " from the inside edge of the deck bushing (see Fig. 12) to the hub of the friction disc and tighten the $\frac{1}{4}$ " set screw (XX).
3. Refer to Fig. 13 and assemble the new belt tensioning assembly as follows:
 - a). Slide spring (AAA) over tension rod (BBB). Add a washer (CCC) followed by the spacer (DDD).
 - b). Be sure a washer (CCC) is installed on end of anchor rod (FFF). Then install the spacer (DDD) on the anchor rod.
 - c). Place the other end of the assembly into the hole on the carrier anchor plate (GGG), making sure the drive belt (HHH) is around the engine crankshaft pulley.
 - d). Push the carrier sheave (III) and entire carrier assembly back and route the belt around the carrier sheave (III).
4. Install the clevis (JJJ, Fig. 13) at the end of the speed control cable onto the carrier anchor plate (GGG) using a hitch pin (KKK) and the previously removed hairpin cotter (LLL). Make sure that the slot in the clevis faces up.
5. Hook carrier tension spring (MMM, Fig. 13) to the hitch pin under the carrier anchor plate (GGG), but above the speed control clevis (JJJ). Route spring under the clutch engagement cable and attach spring to mounting bracket (NNN). Stretch spring and install mounting bracket over the left side deck embossment that accepts the cover mounting screw.
6. Set the speed control knob at the handlebars in 1st gear and position the two jam nuts on the speed

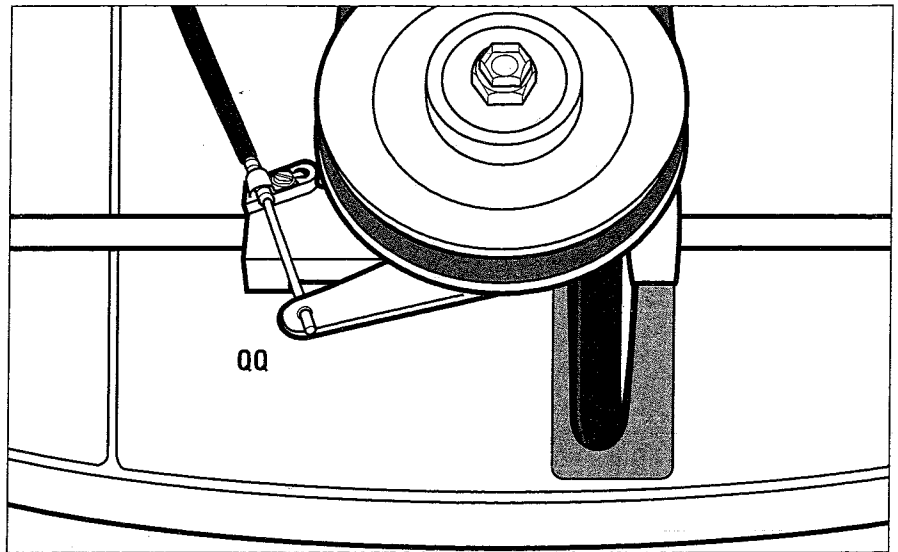


Fig. 11

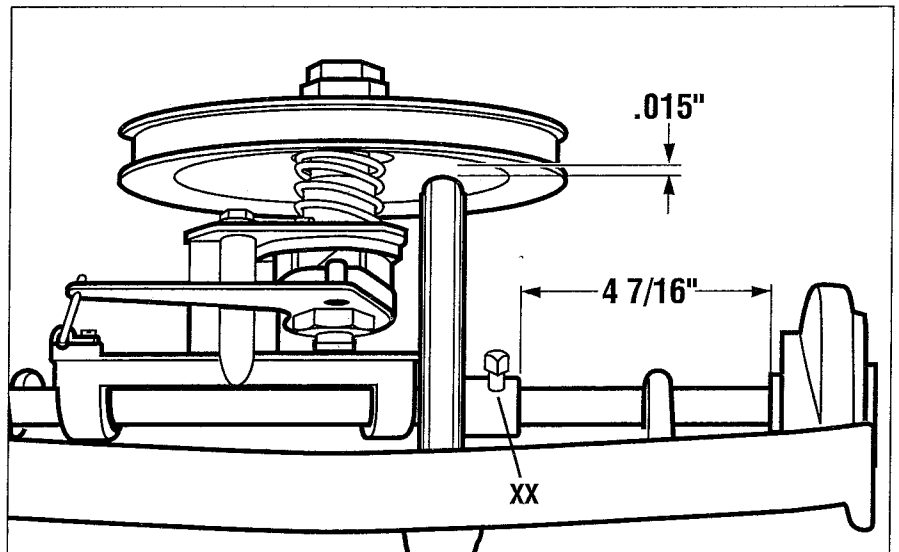


Fig. 12

control cable over the deck embossment just to the right rear of the carrier.

7. Place a $.030$ " shim or feeler gauge between the friction disc and the carrier on the axle (see Fig. 14) and pull the carrier tight against the shim. Then remove any slack from the speed control cable and tighten the jam nuts. Cycle the wheel speeds from 1-to-5 and 5-to-1. Recheck the gap between the friction disc and carrier with the $.030$ " shim. A gap of $.015$ " to $.060$ " is acceptable.

8. Adjust friction disc to sheave gap by following Step "L" on page 32 of the new Owner/Operator Manual included with this kit. Be sure to install the black plug cap (OOO, Fig. 13) on the carrier sheave post.

9. Install the previously removed clutch cable clamp (PPP, Fig. 13) and screw (QQQ) onto the carrier, with the step in the new cable conduit butted up against the back side of the clamp. CAUTION: THE SCREW IS SELF-THREADING. BE CAREFUL TO ONLY TIGHTEN THE SCREW SNUGLY. DO NOT OVERTIGHTEN!

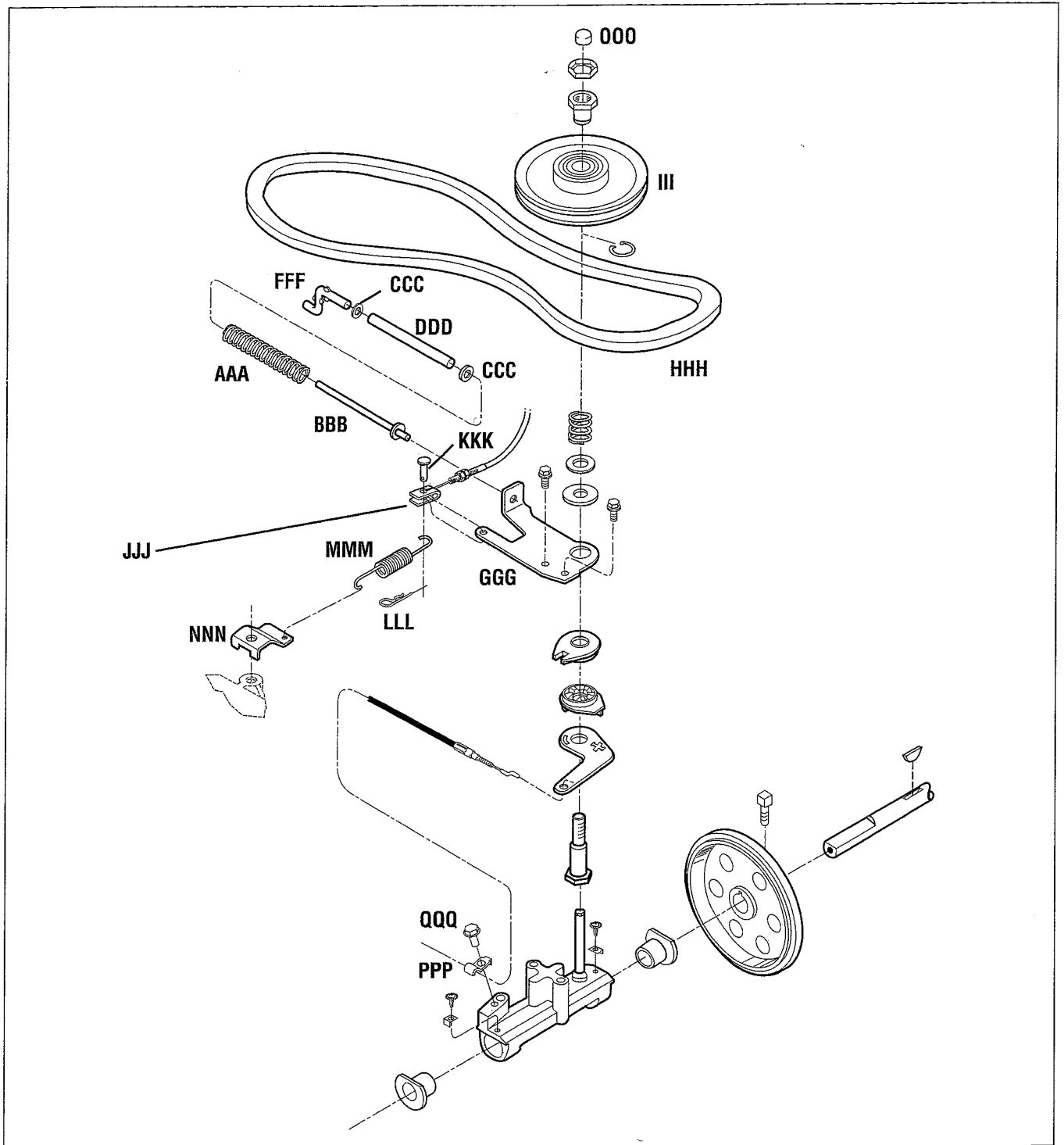


Fig. 13

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10. Standing at the handlebar, position the two clutch cable jam nuts (CC, Fig. 9) in place over the mounting bracket (DD, Fig. 9). With the bail (GG, Fig.9) in the disengaged position, adjust the two nuts until there is a slight amount of slack in the cable. If the cable is adjusted correctly, the cable will become taught after the bail is moved forward approximately one-quarter of an inch (1/4"). Recheck the .015" gap between the friction disc and the sheave. If the gap is incorrect, readjust the gap by following the instructions on page 32 in the new Owner/Operator Manual.

11. Inspect mower for correct operation:
- With clutch lever disengaged, use your hand to move the wheels. They should turn freely.
 - With clutch lever engaged, the wheels should not turn when you attempt to move them with your hand.
12. Reinstall the front cover and secure it with the Phillips screws.
13. Affix the special blue "N" decal (from the kit) on the left side of the serial number decal. This decal identifies the unit as having been updated with this special traction kit.

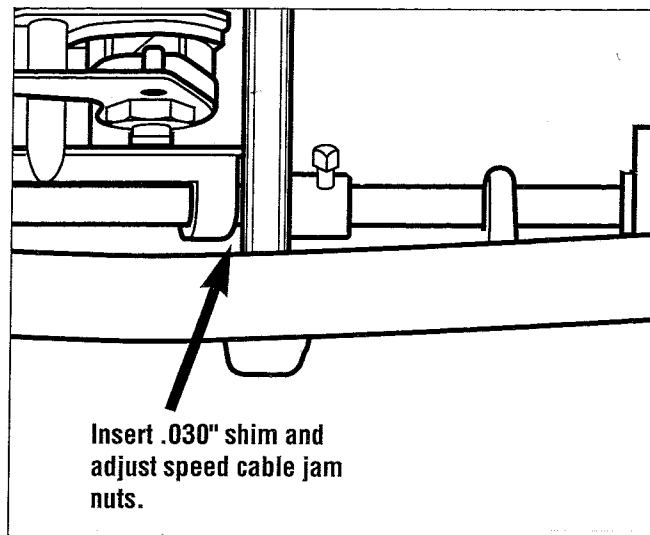


Fig. 14

GARDEN WAY INCORPORATED