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<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
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<tr>
<td>1</td>
<td>PA10505</td>
<td>MOUNTING BRACKET, DUAL ALTERNATOR KIT, 6068AFM85, 6068SFM85</td>
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<td>2</td>
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<td>3</td>
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<td>R701_re59701_6</td>
<td>AUTO-TENSIONER</td>
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<td>R502079</td>
<td>IDLER PULLEY BUSHING</td>
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<td>6</td>
<td>701680</td>
<td>SPACER, IDLER PULLEY</td>
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<td>7</td>
<td>AF211041_MIS1</td>
<td>JD FRONT-SIDE IDLER PULLEY</td>
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<td>8</td>
<td>33737A</td>
<td>PULLEY, IDLER, 90MM, DORMAN #419-605, M16 Bolt</td>
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<td>703057</td>
<td>ALTERNATOR, 28VDC, 50A, SMALL FRAME</td>
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<td>R516574_1</td>
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<td>STOCK ALTERNATOR W/H HARNESS AND HARDWARE</td>
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<td>19M7811_1</td>
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<td>R134010</td>
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<td>R135423</td>
<td>BOLT BUSHING</td>
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<td>15</td>
<td>PA10506</td>
<td>BELT GUARD, JOHN DEERE, MODIFIED FOR DUAL ALTERNATOR KIT ALT10014. JD BASE PART RE529278,OC 24gb</td>
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<td>16</td>
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<td>98093A230</td>
<td>98093A230 HIGH-STRENGTH FLANGED HEX HEAD SCREW</td>
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<td>92497A450</td>
<td>92497A450 ZINC YELLOW-CHROMATE PLATED STEEL HEX NUT</td>
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<td>K080730HD</td>
<td>BELT, MICRO V-BELT, K PROFILE, 8-RIB, GATES FLEETRUNNER, 1867MM OUTSIDE CIRCUMFERENCE</td>
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<td>M10 X 1.50 X 30. SHCS, CLASS 12.9, PLAIN FINISH</td>
<td>SHOP SUPPLIES</td>
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<td>98688A118, METRIC GENERAL PURPOSE WASHERS</td>
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<td>RE505489_ASM_1</td>
<td>WIRING HARNESS, ALTERNATOR 701680</td>
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<tr>
<td>29</td>
<td>R501065</td>
<td>SHIM WASHER</td>
<td>2</td>
<td>1 OF 2</td>
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<tr>
<td>30</td>
<td>19M8291</td>
<td>M8 FLANGE BOLT, FOR ALTERNATOR</td>
<td>1</td>
<td>1 OF 2</td>
</tr>
</tbody>
</table>

** NOTE: ITEMS NOT INCLUDED IN BOM ARE SUPPLIED WITH ENGINE AND REUSED FOR THE KIT. **
ASSEMBLY INSTRUCTIONS:

1. First off, thank you for putting your trust in our products and purchasing our dual-alternator kit. It has been engineered for long-life, durability and the most economy possible. Please follow these installation instructions to ensure you get the most life out of our product!
2. Remove the factory belt guard, retaining the hardware for reuse.
3. Modify the guard, per the supplied instructions. We recommend a 4-1/2" cut-off wheel on an angle grinder, or a plasma or oxy-acetylene torch.
4. Push and hold on the stock belt, observing the tension, for later reference when installing the replacement. Note the travel in the auto-tensioner arm.
5. Remove the belt by fully tensioning the auto-tensioner with a 1/2" drive ratchet. Note the distance of travel (angle) in the arm's resting position against the belt and the fully tensioned position of the arm.
6. Remove the tensioner, retain it and the hardware for reuse. Discard the yellow-zinc plated backing plate, or keep it as a coaster.
7. Remove the idler pulley, retain it and the hardware for reuse.
8. Remove the bolt from the top of the alternator, retaining the hardware and shim washer. Swing the alternator toward the valve cover to rest.
9. Remove the crescent-shaped alternator bracket and the flat plate it bolts to, retaining the hardware for reuse.
10. Install bracket PA10505. There are two parts to this bracket.
   1. The larger holds the alternators and installs in the same location as the stock brackets. Be sure to reuse all four of the bolts from the stock brackets which was removed in a previous step.
   2. The little one relocates the front-side idler pulley supplied with the engine. It bolts to the machined boss on the timing cover with a vertical, two-bolt pattern. Its just below and to the left of the stock alternator. Torque the M10 bolts to 68 ft-lbs. Torque the M8 bolts to 41 lb-ft.
11. Reinstall the front side idler pulley to the smaller of the two brackets in PA10505.
   1. Reuse the bolt, idler bushing, stand-off supplied with the engine and the round, aluminum, shim washer (92510A616) supplied with the kit. The washer is sanwiched between the stand-off and PA10505. This is important to maintain pulley alignment. Torque to 60 lb-ft.
   2. Install the second alternator.
      1. Fix the bottom of the alternator to RS16574, making sure to install the two bushings and the thrust washer. Refer to the stock alternator for bushing and washer placement.
      2. Bolt the top of the alternator to the bracket, with the supplied M8 flange bolt, making sure to install the shim washer between the bracket and the alternator. Torque the alternator. Torque to 33 lb-ft.
      3. Tighten the M10x120MM bolt holding the bottom of the alternator. Torque to 50 lb-ft.
      4. Tighten the two flange bolts holding RS16574 in place. Torque to 50 lb-ft.
      5. Visually check the pulleys on both alternators are in alignment.
      6. Install one of the two back-side idler pulleys (33737A) in the center hole between the two alternators. Torque to 50 lb-ft.
12. Bolt the auto-tensioner to the bracket, aligning the cast dowel-pin on it's back with the middle dowel-pin hole in the bracket. Remember not to use the backing plate.
13. Install the auto-tensioner bracket (37277) to the front of the engine. On the front of the head is a cast bracket with two vertical rows of threaded holes. Bolt the tensioner with the supplied socket head cap screws and washers to the top four bolts in the pattern. The rounded side of the bracket should be painted down. Torque to 68 lb-ft.
14. The tensioner arm and the belt should form about a 24-degree angle, or a little less than 1/3 of a right angle.
15. The tensioner arm and the belt should form about a 24-degree angle, or a little less than 1/3 of a right angle.
16. Check the belt tension. A loose belt will slip and an excessively tight belt will put additional side-load on shaft bearings, causing wear and premature parts failure.
   1. Release the tensioner, letting it rest against the belt.
   2. Push and pull the belt to see if it has a similar tension as the stock belt had.
   3. The tensioner arm and the belt should form about a 24-degree angle, or a little less than 1/3 of a right angle.
17. Visually inspect for pulley alignment, and the belt is properly seated against all the pulleys and centered on the idlers.
18. Tighten the two flange bolts holding RS16574 in place. Torque to 50 lb-ft.
20. Install the supplied replacement belt while holding the tensioner against its fully-wound stop with a 1/2" drive ratchet.
   1. Be sure the belt micro-v's are aligned with all the pulley grooves.
   2. Visually inspect for pulley alignment, and the belt is properly seated against all the pulleys and centered on the idlers.
   3. Check the belt tension. A loose belt will slip and an excessively tight belt will put additional side-load on shaft bearings, causing wear and premature parts failure.
      1. Release the tensioner, letting it rest against the belt.
      2. Push and pull the belt to see if it has a similar tension as the stock belt had.
      3. The tensioner arm and the belt should form about a 24-degree angle, or a little less than 1/3 of a right angle.
      4. If the angle is substantially different, or if the belt is excessively loose or tight, remove the belt, and adjust the position of the idler between the two alternators:
         1. To tighten the belt, bolt the idler to the lower hole.
         2. To loosen the belt, bolt the idler to the top hole.
         5. Reinstall the belt, noting the angle and tension. To further tune the tension, the tensioner may be re-clocked, aligning the dowel to the higher or lower hole in the corresponding bracket.
      5. Bolt the alternator fan shroud (PA10504) to the modified JD belt guard, PA10506 with the supplied bolts, nuts and flat washers. Torque the M10 bolts to 50 lb-ft. Torque the M8 bolts as tight as you want.
21. Check for clearance of the belt, idlers and tensioner to the guard.
22. Install the second back-side idler in the lower threaded hole in the larger of the two brackets in PA10505. Torque to 50 lb-ft.
23. Check the belt tension. A loose belt will slip and an excessively tight belt will put additional side-load on shaft bearings, causing wear and premature parts failure.
   3. Remove the crescent-shaped alternator bracket and the flat plate it bolts to, retaining the hardware for reuse.
24. Test run the engine, noting the adjustment of the tensioner arm on start-up, and checking for clearance. It's not a bad idea to check the tension again, after the belt has had afew revolutions to evenly distribute the load.
25. Visually inspect the belt for excessive wear during the first few hours of operation. Extra belt dust is normal during break-in, but there shouldn't be any fraying or wearing of the edges. If there is, there may be an alignment issue with the pulleys somewhere or the belt isn’t seated properly.
26. Replace the idler pulleys, or the bearings every 10,000 hours. The belt should be good for 20,000.

Congrats! All done. Please, please, please send us a picture, tell us how it went. Let us know what you think. To continually improve, we want the good, the bad and the ugly!
AFTER

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DETAIL A
SCALE 1 : 4

DETAIL A
SCALE 1 : 4

DETAIL B
SCALE 1 : 4

NOTCH GUARD FOR BELT CLEARANCE, CUT ALONG PIPE STAND-OFF, RETAINING THE WELD FOR STRENGTH

REMOVE TOP OF GUARD TO CROSS BRACE

DETAIL C
SCALE 1 : 4

DRILL HOLES TO FIX ALTERNATOR FAN SHROUD TO BELT GUARD, HOLES CAN BE LOCATED BY USING THE ALTERNATOR SHROUD AS A TEMPLATE

NOTCH GUARD FOR TENSIONER CLEARANCE, CUT ALONG PIPE STAND-OFF, RETAINING THE WELD FOR STRENGTH

JOHN DEERE FACTORY BELT GUARD MODIFICATIONS. PART BECOMES PA10506

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