PROFESSIONAL SERIES (PRO-Z 500, 700, 900 & PRO HW 300 & PRO X 600)

PRO Z 500 **PRO Z 700** **PRO Z 900** **Models Affected:**	**PRO Z 500 KW 548-L** (53RIHJTK050). **PRO Z 500 KW 554-L** (53RIHJTN050, 53TIHJTN050). **PRO Z 500 KW 554-S** (53RIHJUN050, 53TIHJUN050). **PRO Z 500 KW 560-L** (53LIHJTV050, 53RIHJTV050, 53TIHJTV050). **PRO Z 500 KW 560-S** (53LIHJUV050, 53RIHJUV050, 53TIHJUV050). **PRO Z 700 KW 760-L** (53RIHKTV050, 53TIHKTV050). **PRO Z 700 KW EFI 760-L** (53RLHKTV050). **PRO Z 700 KW 760-S** (53RIHKUV050, 53TIHKUV050). **PRO Z 700 KW 772-L** (53RIHKTY050, 53TIHKTY050). **PRO Z 700 KW 772-S** (53RIHKUY050). **PRO Z 900 KW 960-L** (53RIHMTV050, 53TIHMTV050). **PRO Z 900 KW 960-S** (53RIHMUV050, 53TIHMUV050). **PRO Z 900 KW 972-L** (53RIHMTY050, 53TIHMTY050). **PRO Z 900 KW 972-S** (53FIHMUY050, 53RIHMUY050).
PRO HW 300 **Models Affected:**	**PRO HW 300 336** (55RK6HNR050, 55AK6HNR330). **PRO HW 300 348** (55RI6HNS050). **PRO HW 300 354** (55RI6HNV050).
PRO X 600 **Models Affected:**	**PRO X 600 648** (53AI8CSF050). **PRO X 600 654** (53AI8CSA050). **PRO X 600 660** (53AI8CSU050).
Serial Number Range Affected:	Units Manufactured March 01, 2016 through December 11, 2019. (1C016Hxxxxx through 1L119Hxxxxx)
Date:	September 05, 2018 **Revised January 09, 2020 (Please Destroy All Previous Copies)**
Subject:	**Kawasaki Engine Mounting Screws** **FIX-AS-FAIL**

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

NOTE: *Always wear eye protection while servicing equipment. Wear hearing protection when appropriate. Always work in a well ventilated area and follow all safety precautions when dealing with combustible materials.*

NOTE: *Left (LH) and Right (RH) sides are determined from the operator's position and facing in the forward direction.*

PURPOSE:

We have received reports of failure of the engine mounting screws used on the above listed models. The screws possibly can become loose and / or break off inside of the Kawasaki engine block.

ACTION REQUIRED:

This Fix-As-Fail Advisory is to replace the affected engine mounting screws. Cub Cadet feels it would be proactive to replace the engine mounting screws prior to the possibility of them becoming loose and or breaking.

We recommend to inspect ALL units within the above Serial Number Range Affected for loose, broken or missing engine mounting screws. Order the needed amount of engine mounting screws per rider.

INSTRUCTIONS:

1. Order and install Qty. (4) **710-06359A** Hex Flange Screw, 3/8-16 x 1.25" per the instructions on Page 2 of this Advisory.

2. Only order and install Qty. (1) **703E17541-4021** Lower Engine Support Plate if the screws came loose or broke and the mounting holes in the frame have significant damage.

NOTE: ***If no significant damage is observed, the lower engine support plate is not required.***

NOTE: ***A Special Authorization is required prior to ordering a replacement short block or engine if repair is unable to be performed.***

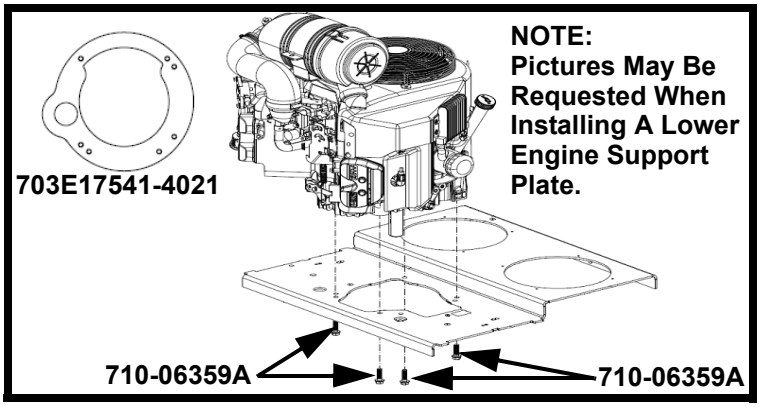

FIGURE 1

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1. Park rider on a flat level surface and engage the parking brake.

2. Disconnect the negative battery cable from the negative battery terminal.

3. Allow the engine and exhaust system to cool before proceeding with repair.

4. Lower the mower deck to gain access to the PTO idler arm bracket.

5. Release the tension on the PTO belt, then remove the PTO belt from the PTO clutch.

6. Relieve the tension on the transmission drive belt and slip the transmission belt off of the engine drive pulley. See Figure 2.

FIGURE 2

7. Remove the extension spring from the shoulder screw in the idler arm bracket. See Figure 3.

FIGURE 3

NOTE: ***Loosening of the 3/8-16 nylon lock flange nut from the shoulder screw maybe necessary to remove the extension spring.***

8. This allows the idler arm bracket to be pivoted out of the way to access the left front engine mounting screw.

9. If it is still difficult to access the engine mounting screw, then remove the idler arm by removing the 1/2-13 x 2.75" bolt and nut. See Figure 4. **NOTE:** ***The 1/2-13 nylon lock flange nut is on top of the engine plate.***

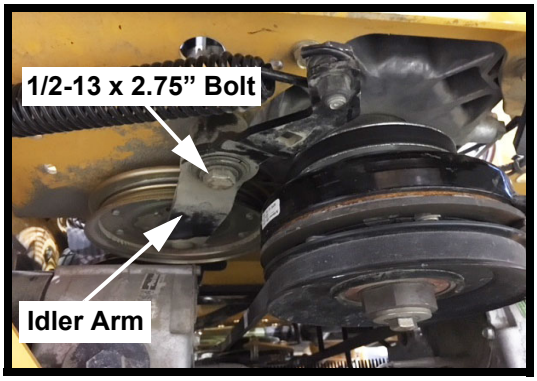

FIGURE 4

10. Remove the four (4) engine mounting screws. If the engine mounting screws were able to be removed proceed to Step 21. If a mounting screw has broke off inside of the engine block proceed to Step 11.

11. Soak the screw with a light penetrating oil. Allow the lubricant some time to soak in.

12. If possible dress the broken end of the screw to a flat surface.

13. Use a center punch and ball been hammer to place a score in the exact center of the broken screw.

14. Choose the proper size screw extractor for the extraction of a 3/8 screw.

15. Use the recommended drill bit size listed on the screw extractor to drill out the center of the broken screw. Only drill half of the length of the screw still remaining in the engine block. Use one of the screws removed as a length gauge. **NOTE:** ***It is critical that the hole is drilled perfectly on center to prevent damaging the threads of the hole of the engine block.***

16. Insert the screw extractor into the drilled hole and using a ball peen hammer gently tap the extractor into the broken screw.

17. Use the proper size socket or adjustable wrench on the screw extractor to back out the broken screw. **NOTE:** ***The screw extractor is made from hard but brittle steel. Use great care as a strong lateral force can easily cause them to snap.***

18. Use a heat gun to help soften the chemical patch on the broken screw during removal.

19. If the broken screw was able to be removed, proceed to Step 21. If the broken screw was unable to be removed or damage to the threads has occurred, proceed to Step 20.

20. Install a Heli-coil in the engine block. For installation, Follow the instructions provided with the Heli-coil.

21. Use a thread chaser to clean the engine block mounting holes. **NOTE:** ***Do not use the thread chaser on the Heli-coil if installed.***

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22. Check the engine mounting holes in the frame for damage due to loose or broken engine mounting screws. If the mounting holes in the frame have significant damage, proceed to Step 23. If the mounting holes are not damaged proceed to Step 33.

23. Disconnect the main wire harness lead from the PTO clutch harness lead.

24. Remove the 7/16-20 x 2.75” hex head screw and thick flat washer that secures the PTO clutch to the engine crankshaft.

25. Remove the PTO clutch from the crankshaft.

26. Remove the transmission pulley from the crankshaft.

27. Install the (**703E17541-4021**) Lower Engine Support Plate to the bottom of the frame. Position to align the correct mounting holes (Kawasaki or Kohler).

28. Install one (1) of the (**710-06359A**) Hex Flange Screws to hold the lower engine support plate in place. Do Not tighten at this time.

29. Clean, then apply a small amount of anti seize compound to the crankshaft.

30. Install the transmission pulley onto the crankshaft with the 45 degree chamfer hub side towards the engine.

31. Install the PTO clutch onto the crankshaft and position the anti rotation stud into the slot of the PTO clutch. Secure with the thick flat washer and 7/16-20 x 2.75” hex head screw. Tighten the 7/16-20 hex head screw to a torque of 60-70 ft. lbs. (720-840 in. lbs.).

32. Connect the main wire harness lead to the PTO clutch wire lead.

33. Install the (**710-06359A**) 3/8-16 x 1.25” Hex Flange Screws. **NOTE:** ***One of the hex flange screws may already have been installed if a lower engine support plate was installed.***

34. In a cross pattern, tighten the engine mounting screws to 34-38 ft. lbs.

35. If removed in Step 9, reinstall the idler arm.

36. Connect the extension spring back onto the shoulder screw on the idler arm bracket. Tighten the 3/8-16 nylon lock flange nut if loosened.

37. Install the transmission drive belt back onto the engine drive pulley. Make sure the belt is seated in both of the transmission pulleys and routed correctly.

38. Raise the mower deck to the mid height position to align the belt in a straight line for ease of installation.

39. Install the PTO belt back onto the PTO clutch pulley. Make sure the PTO belt is seated in the deck drive pulley and routed correctly.

40. Connect the negative battery cable to the negative battery terminal.

41. Start the unit and confirm all operating features are functioning properly.

Warranty: Normal warranty terms apply. Indicate Service Advisory **CC-1004B** and **710-06359** as the original failed part on the claim. Repair time allowance is **0.9** Hrs.

Mandatory>>>When completing the warranty claim, select the drop down text shown below for the following claim fields:

GROUP CODE: Engine-Mech, Exhaust, cooling **FAIL CODE:** Loose

WORK PERFORMED: Remove and Replace Engine Mounting Hardware

SERVICE MANAGER	PARTS MANAGER	SALES MANAGER	SERVICE TECH.	SERVICE TECH.

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