

TECHNICAL

FACTORY DIRECTED MODIFICATION

ENG 24-01 | **CODE:** National | **DATE:** February 22, 2024

DETAIL

On select Kawasaki engines, listed in the Eligible Engine Table, there is a possibility that the 21066-0785 voltage regulator will fail prematurely. This failure may result in high temperatures within the voltage regulator. These high temperatures could raise the risk of fire.

KAWASAKI ACTION

Kawasaki initiated a Factory Directed Modification (FDM) campaign to replace the 21066-0785 voltage regulator on all eligible units according to the “Required Action in Field” section of this FDM.

ELIGIBILITY

Units within the engine model, specification, and serial number ranges listed in “Eligible Engines Table,” are eligible for the FDM. If the engine model and specification code is not listed, disregard this FDM.

Engine eligibility can also be confirmed by going to [KawasakiPowerWarranty.com](https://www.kawasaki.com/power/warranty), logging into the Kawasaki dealer warranty website and entering your engine serial number in the Open Service Campaign box.

IMPORTANT NOTE

THIS FDM DOES NOT APPLY TO THE BELOW ENGINES:

FX600V-_S18	FX691V-_S18	FX730V_S17	FX801V-_S08 FX801V-_S13 FX801V-_S15 FX801V-_S21 FX801V-_S25	FX850V-_S11 FX850V-_S24	FX921V-_S13 FX921V-_S17	FXT00V-_S19 FXT00V-_S31
--------------------	--------------------	-------------------	--	--	--	--

Eligible Engine Table

Model Number	Specification Number	Engine Serial Number Range
FH601D	HS01	FH601DA59614 - FH601DA64303
FH680D	JS01	FH680DA48650 - FH680DA52522
FH721D	KS01	FH721DA64847 - FH721DA67608
FH770D	HS01	FH770DA21067 - FH770DA21740
FS541V	GS53	FS541VB49625 - FS541VB50751
	AS56	FS541VB51588 - FS541VB71513
FS600V	BS29	FS600VF26474 - FS600VF41935

Eligible Engine Table Continued

Model Number	Specification Number	Engine Serial Number Range
FS651V	BS22	FS651VC43539 - FS651VC62166
	CS22	FS651VC63543 - FS651VC71453
	CS52	FS651VC43987 - FS651VC63434
	DS52	FS651VC64027 - FS651VC75528
	AS53	FS651VC69578 - FS651VC73568
FS691V	FS51	FS691VA81404 - FS691VA89792
	GS51	FS691VA95396 - FS691VA98179
	AS53	FS691VA95036 - FS691VA99939
FS730V	AS26	FS730VD80844 - FS730VD97748

Eligible Engine Table Continued		
Model Number	Specification Number	Engine Serial Number Range
FT730V	AS10	FT730VA73465 - FT730VA94781
	AS11	FT730VA45082 - FT730VA63539
	BS11	FT730VA66338 - FT730VA75890
FX481V	DS10	FX481VA08782 - FX481VA10825
FX691V	CS50	FX691VB97488 - FX691VC12103
	DS50	FX691VC13052 - FX691VC19485
	ES50	FX691VC20566 - FX691VC38540
FX730V	AR05	FX730VC89535 - FX730VC89630
	BR05	FX730VC98399 - FX730VD06568
	CR05	FX730VD52720 - FX730VD82294
	KS05	FX730VC82133 - FX730VD82484
	LS05	FX730VD85797 - FX730VD85856
FX751V	LS00	FX751VA76686 - FX751VA77769
	MS00	FX751VA77914 - FX751VA83505
	MS07	FX751VA76614 - FX751VA77501
	NS07	FX751VA78706 - FX751VA82665
	ES11	FX751VA76602 - FX751VA78129
	FS11	FX751VA78262 - FX751VA83577
	GS11	FX751VA83578 - FX751VA83637
FX801V	LS00	FX801VC22760 - FX801VC31703
	MS00	FX801VC35884 - FX801VD07353
	MS04	FX801VC22556 - FX801VC37355
	NS04	FX801VC37718 - FX801VD01983
	PS04	FX801VD04601 - FX801VD08181
	RS04	FX801VD08674 - FX801VD09093
	JS07	FX801VC22412 - FX801VC22507
	KS07	FX801VC52610 - FX801VC63050
	HS09	FX801VC24176 - FX801VC32184
	JS09	FX801VC33396 - FX801VC87617
	FS12	FX801VC33024 - FX801VC35258
	GS12	FX801VC47702 - FX801VC91951
	ES18	FX801VC24080 - FX801VC36004
	FS18	FX801VC48229 - FX801VD07953
	GS18	FX801VD08410 - FX801VD09429
	ES19	FX801VC22544 - FX801VC36472
	FS19	FX801VC37356 - FX801VD08361
	GS19	FX801VD08578 - FX801VD09009
	DS22	FX801VC26264 - FX801VC32172
	ES22	FX801VC37440 - FX801VC90233
AS27	FX801VC23012 - FX801VC32399	
BS27	FX801VC32964 - FX801VC79145	

Eligible Engine Table Continued		
Model Number	Specification Number	Engine Serial Number Range
FX801V	AS28	FX801VC85506 - FX801VC85589
	BS28	FX801VD09434 - FX801VD09457
	AS29	FX801VD02524 - FX801VD06785
FX850V	LS00	FX850VC06916 - FX850VC13391
	MS00	FX850VC13824 - FX850VC83539
	HS07	FX850VC04818 - FX850VC17489
	JS07	FX850VC18328 - FX850VC49400
	LS10	FX850VC34160 - FX850VC69461
	FS15	FX850VC06256 - FX850VC17585
	GS15	FX850VC23703 - FX850VC84738
	GS18	FX850VC48957 - FX850VC58444
	HS18	FX850VC66502 - FX850VC66561
	GS22	FX850VC15741 - FX850VC22849
	DS25	FX850VC04686 - FX850VC14762
	ES25	FX850VC18292 - FX850VC83716
	FS25	FX850VC84993 - FX850VC87071
	DS26	FX850VC04902 - FX850VC12971
	ES26	FX850VC15718 - FX850VC75466
	DS27	FX850VC12402 - FX850VC13415
	ES27	FX850VC30327 - FX850VC76995
	BS29	FX850VC09197 - FX850VC17393
	CS29	FX850VC20310 - FX850VC26083
	AS33	FX850VC12498 - FX850VC16347
	BS33	FX850VC26143 - FX850VC70531
	AS34	FX850VC39182 - FX850VC58299
	AS35	FX850VC19455 - FX850VC73994
	AS37	FX850VC81247 - FX850VC81963
	BS37	FX850VC85740 - FX850VC85787

Eligible Engine Table Continued		
Model Number	Specification Number	Engine Serial Number Range
FX921V	JS00	FX921VA83898 - FX921VB18614
	GS04	FX921VA79590 - FX921VA84785
	HS04	FX921VA85482 - FX921VB23164
	GS06	FX921VA79830 - FX921VA84413
	HS06	FX921VA85842 - FX921VB24158
	HS07	FX921VA90138 - FX921VB22118
	CS09	FX921VA79686 - FX921VA85481
	DS09	FX921VA86730 - FX921VB23078
	ES11	FX921VA79542 - FX921VA94505
	DS15	FX921VA80634 - FX921VA84581
	BS18	FX921VA83430 - FX921VA84833
	CS18	FX921VA88314 - FX921VB22874
	BS19	FX921VB09771 - FX921VB09818
	BS20	FX921VA86622 - FX921VB09014
	AS22	FX921VA79962 - FX921VB19466
	AS23	FX921VB07107 - FX921VB14570

Eligible Engine Table Continued		
Model Number	Specification Number	Engine Serial Number Range
FXT00V	JS00	FXT00VA91491 - FXT00VB66650
	CS15	FXT00VA91683 - FXT00VB06369
	DS15	FXT00VB07678 - FXT00VB35815
	ES16	FXT00VA95938 - FXT00VB26994
	FS16	FXT00VB31812 - FXT00VB47701
	ES18	FXT00VB39351 - FXT00VB66874
	DS22	FXT00VA91731 - FXT00VB41301
	CS24	FXT00VB10312 - FXT00VB71314
	AS25	FXT00VA91503 - FXT00VB07293
	BS25	FXT00VB08961 - FXT00VB70067
	AS28	FXT00VA92621 - FXT00VB07377
	BS28	FXT00VB08817 - FXT00VB21140
	AS30	FXT00VA96370 - FXT00VB07413
	BS30	FXT00VB13956 - FXT00VB66826
	AS32	FXT00VA92681 - FXT00VB67380
	AS33	FXT00VB04053 - FXT00VB71302
	AS36	FXT00VB67441 - FXT00VB74333

REQUIRED ACTION IN FIELD

Repair all eligible units, including sold and unsold units in the field and unsold inventory. The repair consists of replacing the 21066-0785 voltage regulator.

NOTE

- Kawasaki has repaired some engines in the eligible engine serial number range prior to delivery. Refer to Steps 1 and 2 in "Repair Procedure" section of this Service Information Bulletin. All further engine shipments from Kawasaki will have the updated parts installed.

PARTS INFORMATION

Kawasaki will provide the replacement parts for the repair of all eligible engines. Please order online at KawasakiPower.com. The required parts depend on which engine model the voltage regulator is being replaced on. Refer to the below Part Table.

Part Table				
Engine Model	Engine Specification	Part Number	Part Name	Quantity
FH601D	_S01	21066-0810	REGULATOR-VOLTAGE	1
FH680D	_S01	21066-0810	REGULATOR-VOLTAGE	1
FH721D	_S01	21066-0810	REGULATOR-VOLTAGE	1
FH770D	_S01	21066-0810	REGULATOR-VOLTAGE	1
FS541V	_S53, _S56	21066-0810	REGULATOR-VOLTAGE	1
FS600V	BS29	21066-0810	REGULATOR-VOLTAGE	1
FS651V	_S22, _S52, _S53	21066-0810	REGULATOR-VOLTAGE	1
FS691V	_S51, _S53	21066-0810	REGULATOR-VOLTAGE	1
FS730V	_S26	21066-0810	REGULATOR-VOLTAGE	1
FT730V	_S10, _S11	21066-0810	REGULATOR-VOLTAGE	1
FX481V	_S10	21066-0810	REGULATOR-VOLTAGE	1
FX691V	_S50	21066-0810	REGULATOR-VOLTAGE	1
FX730V	_R05, _S05	21066-0810	REGULATOR-VOLTAGE	1
FX751V	_S00, _S07	99999-0934	KIT VOLTAGE REGULATOR	1
FX751V	_S11	21066-0810	REGULATOR-VOLTAGE	1
FX801V	_S00, _S04, _S07, _S09, _S12 _S18, _S22, _S27, _S28, _S29	99999-0934	KIT VOLTAGE REGULATOR	1
FX801V	_S19	21066-0810	REGULATOR-VOLTAGE	1
FX850V	_S00, _S07, _S10, _S15, _S18, _S22 _S25, _S26, _S27, _S34, _S35, _S37	99999-0934	KIT VOLTAGE REGULATOR	1
FX850V	_S29, _S33	21066-0810	REGULATOR-VOLTAGE	1
FX921V	_S00, _S04, _S06, _S07, _S09, _S11 _S15, _S18, _S22, _S23	21066-7017	REGULATOR-VOLTAGE	1
FX921V	_S19, _S20	21066-0810	REGULATOR-VOLTAGE	1
FXT00V	_S00, _S15, _S16, _S22, _S24, _S25 _S32, _S33, _S36	21066-7017	REGULATOR-VOLTAGE	1
FXT00V	_S18, _S28, _S30	21066-0810	REGULATOR-VOLTAGE	1

REPAIR PROCEDURE

Refer to the appropriate sections of the service manual for information and procedures related to part removal and installation. Service manual is available on KawasakiPower.com.

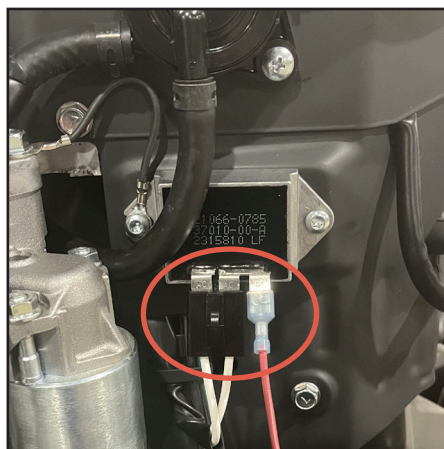
1. Confirm correct engine model, engine specification, and engine serial number by matching them to the “Eligible Engine Table” prior to beginning any part replacements.



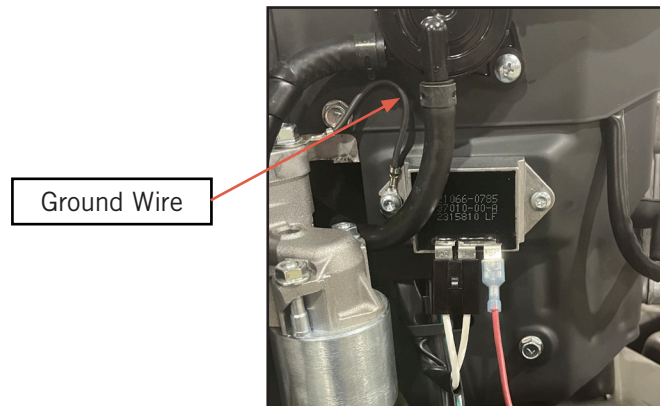
2. Verify the FDM has not been completed by looking for a verification mark “●” on the engine bar-code label. The verification mark may be on either side of the bar code.



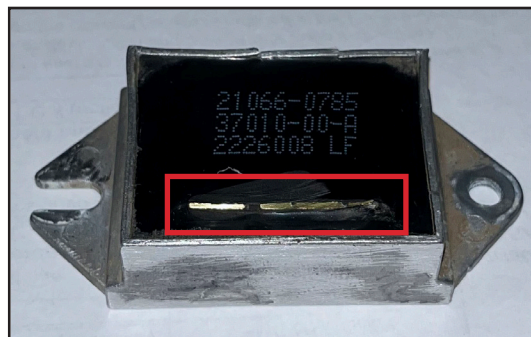
- If bar-code label does have a verification mark “●”, FDM has been completed on the engine. No further action is required.
 - If bar-code label does not have a verification mark “●”, continue to step 3.
3. Disconnect the Negative (-) battery cable.
 4. Disconnect the stator coil lead connector and B+ lead wire connector.
 - Below photo is an example and may not reflect your engine model or application.



5. Remove voltage regulator mounting screw(s) and ground wire.
 - FH601D/FH680D/FH721D/FH770D: Only has 1 mounting screw and no ground wire.
 - FX751V/FX801V/FX850V: When installing Kit 99999-0934, discard 2 voltage regulator mounting bolts.
 - All other engines: Retain 2 voltage regulator mounting screw(s) or bolts.
 - Below photo is an example and may not reflect your engine model or application.



6. Cut the terminals off the 21066-0785 voltage regulator and scrap the voltage regulator.

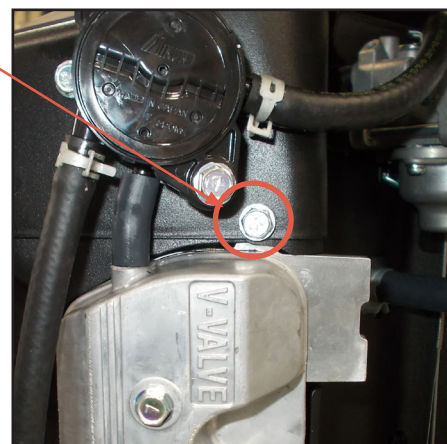


21066-7017 Voltage Regulator or 99999-0934 Kit Installation

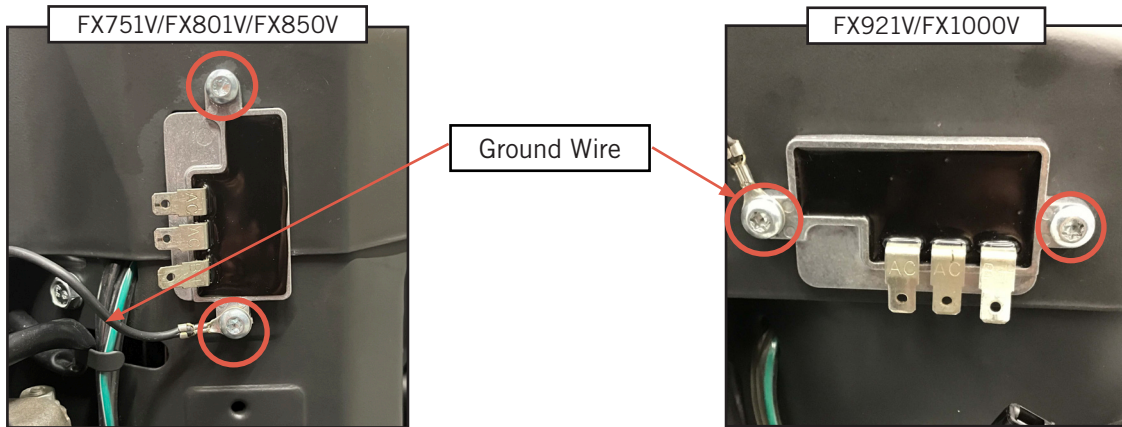
1. For FX751V/FX801V/FX850V engines, loosen (2) #1 cylinder head shroud bolts to allow for proper alignment of 21066-7017 voltage regulator lower mounting screw. For FX921V/FX1000V engines, go to next step.



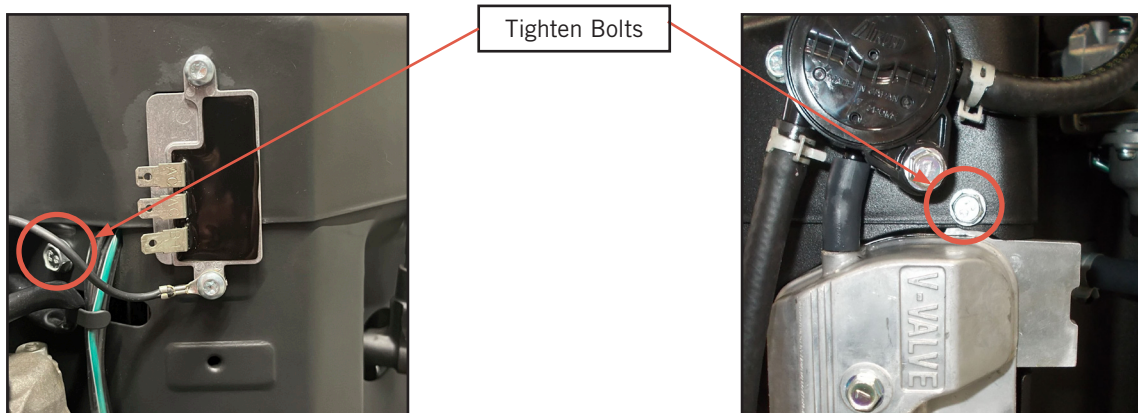
Loosen Bolts



2. Install voltage regulator with ground wire.
 - For FX751V/FX801V/FX850V engines, Install voltage regulator and screws from kit 99999-0934.
 - For FX921V/FX1000V engines, Install voltage regulator 21066-7017 and retained mounting screws.
 - Torque voltage regulator mounting screws to 3.5 N-m (0.36 kgf-m, 31 in-lb).



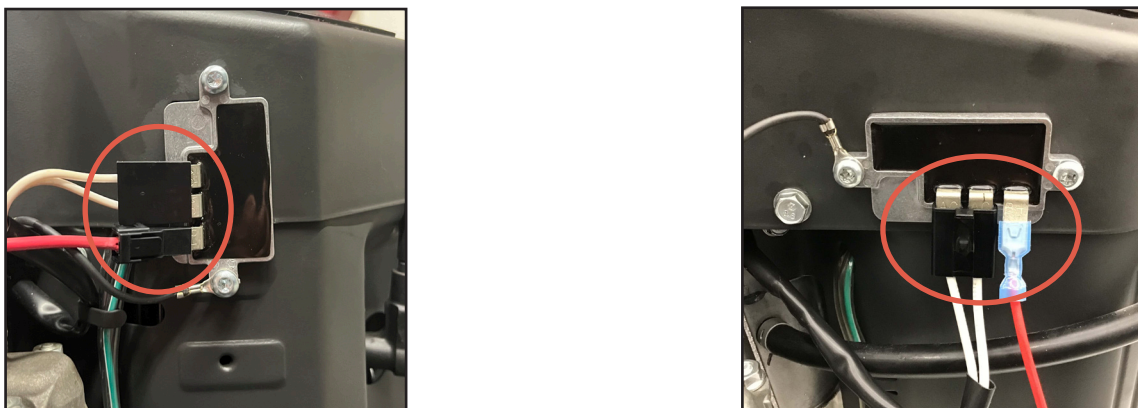
3. For FX751V/FX801V/850V engines, tighten the (2) loosened #1 cylinder head shroud bolts. Torque shroud bolts to 5.9 N-m (0.60 kgf-m, 52 in-lb).



4. Apply automotive grade dielectric grease to the regulator terminals, then connect the stator coil lead connector and the B+ lead connector.

IMPORTANT NOTE

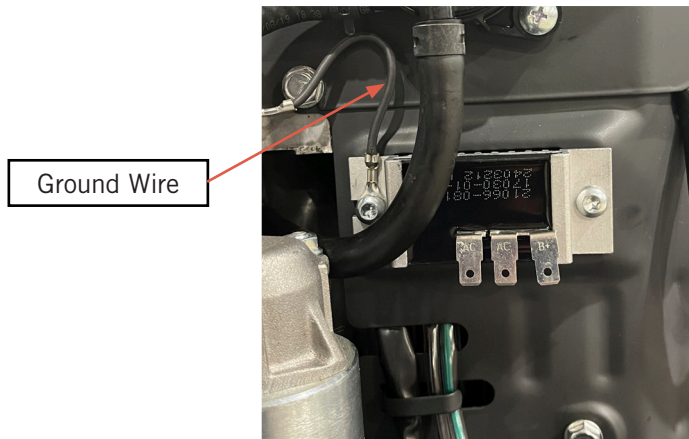
Dielectric grease must be applied to new 21066-7017 regulator terminals to ensure proper electrical contact and prevent corrosion.



5. Reconnect the Negative (-) battery cable.

21066-0810 Voltage Regulator Installation

1. Install 21066-0810 Voltage Regulator with ground wire and tighten screw(s) or bolts.
 - FH601D/FH680D/FH721D/FH770D: Only have 1 mounting screw and no ground wire.
 - Below photo is an example and may not reflect your engine model or application.



2. Compare your voltage regulator mounting screw(s) or bolts to the below, and torque to the listed specification.

No Torque



3.5 N-m
(0.36 kgf-m, 31 in-lb)



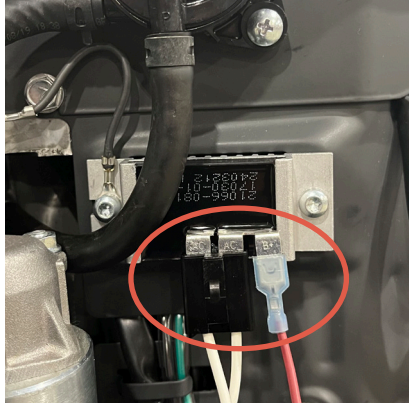
1.8 N-m
(0.18 kgf-m, 16 in-lb)



3. Apply automotive grade dielectric grease to the regulator terminals, then connect the stator coil lead connector and the B+ lead connector.
 - Below photo is an example and may not reflect your engine model or application.

IMPORTANT NOTE

Dielectric grease must be applied to new 21066-0810 regulator terminals to ensure proper electrical contact and prevent corrosion.



4. Reconnect the Negative (-) battery cable.

REPAIR VERIFICATION

After the update is completed, add a verification mark “●” on the engine bar-code as shown below with a permanent black marker.



WARRANTY INFORMATION

Procedure	Voltage Regulator Replacement
Flat Rate	0.3 hour
Causal Part	Regulator-Voltage
Causal Part No.	21066-0785
Quantity	1
Claim Type	Bulletin