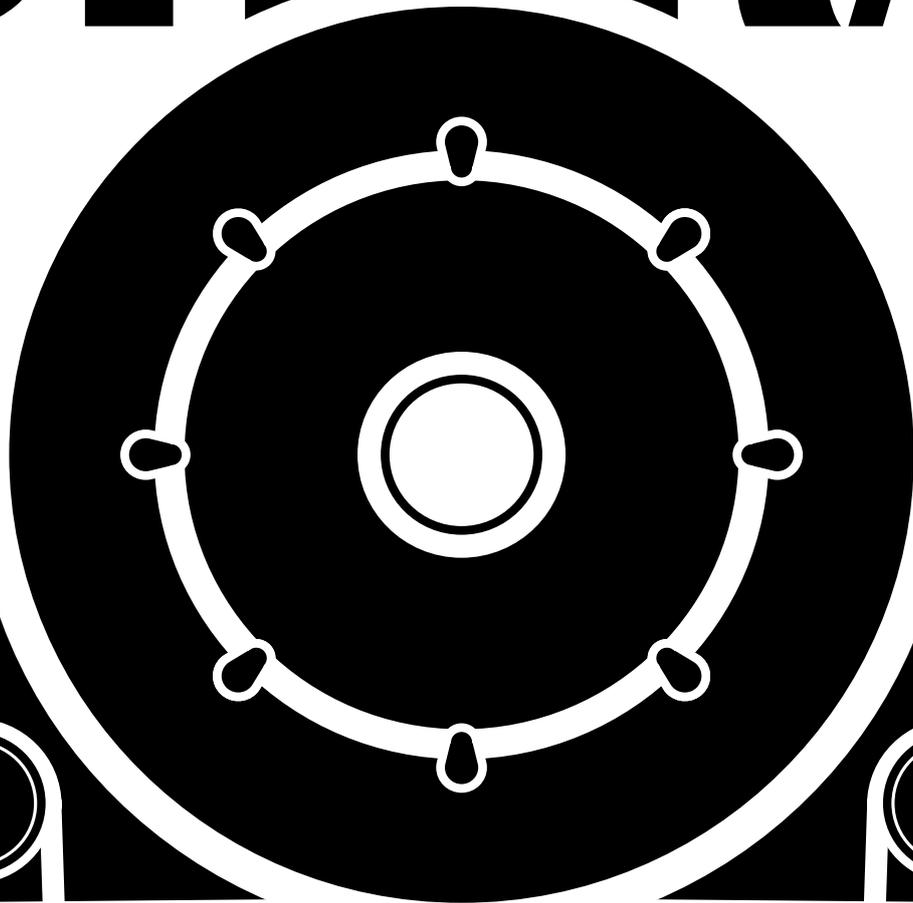


**SHIRA**



**TRAINS**



# READ ME

Just like us, we are sure you hate reading manuals, but you should. Really. There is important stuff in here

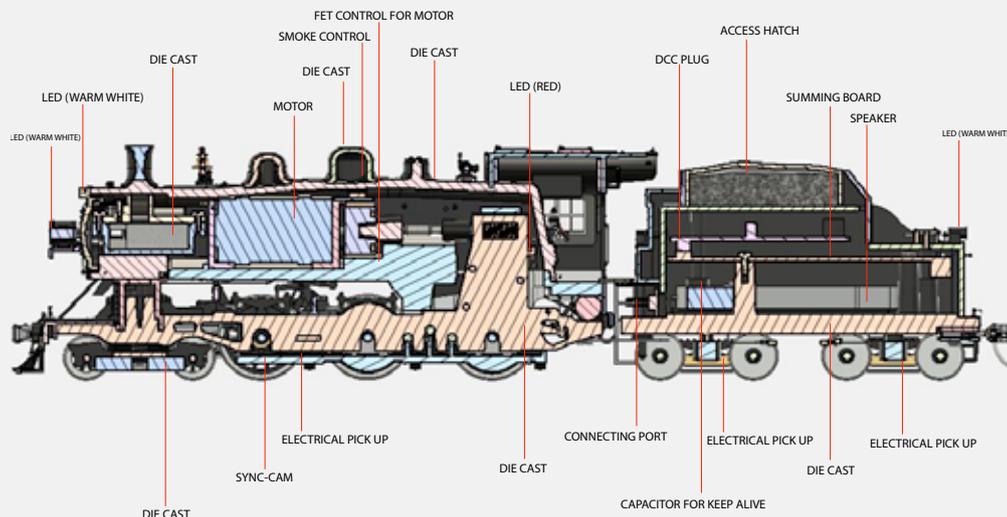
THANK YOU FOR YOUR SUPPORT!

This OPERATORS manual will cover the details of model that you have purchased, including how to service, repair and operate the functions on your new model. Like all models, these models should be handled with care. Our models are meant to be enjoyed with your eyes and ears, and should not be handled unless when needed; This isn't because of faulty or shoddy construction, but so the oils on your hands do not settle on the boiler or other parts causing unsightly fingerprints. There are also several small components on your model that could be jarred loose from over handling, and as such, let us reiterate, it should always be handled with care - in any service procedure or operations session.

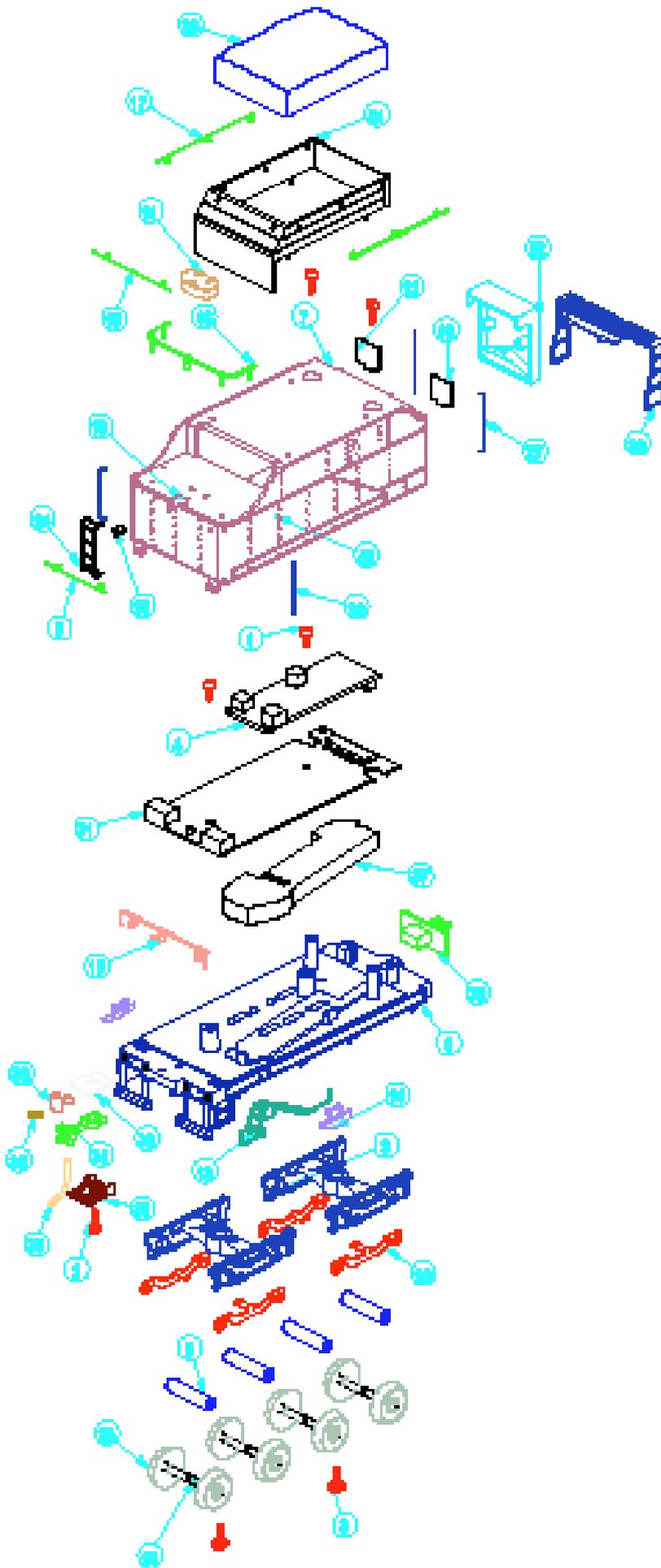
The D-10h Locomotive features the following DIE-CAST parts: boiler, boiler support, tender chassis, leading truck centre weight, gear housing and internal fluid retainer casting. Needless to say there is a lot of weight in your model due to the die-cast Please take care that your locomotive does not come into contact with any live wires other than the intended powered track, this could lead to a disastrous outcome and is not covered by warranty.

### SAFETY WARNING:

Your locomotive and tender has been checked at the factory and has had approx. 1 hour of run time already on it. While we strive to find all the faults before they get out, we are only human. Please check your locomotives operation on a test track to ensure that it is functioning.. FAILURE TO DO SO MAY RESULT IN UNWANTED SHORTS OR LAYOUT DAMAGE WHICH WE CANNOT BE HELD RESPONSIBLE FOR AS WE HAVE NO CONTROL OVER THE ENVIRONMENT.

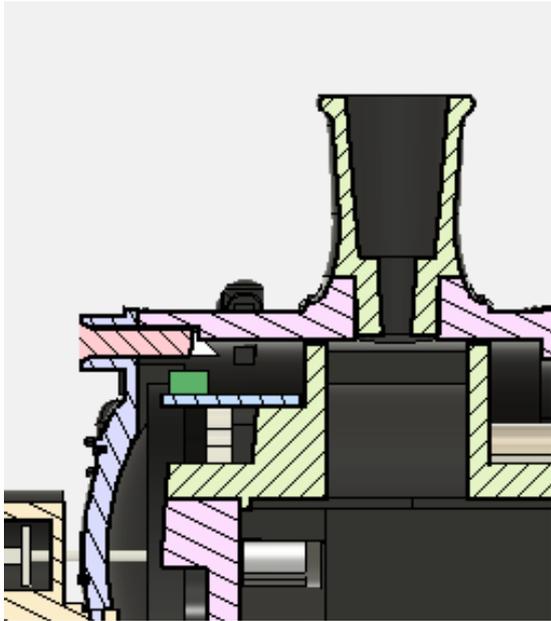






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## Operators Service Manual - PROCEDURE FOR SMOKE OPERATION.



You can choose to operate the smoke unit, but first you will need to fill the fluid reservoir with fluid. A cross section of the locomotive shows that the reservoir is located underneath the smoke stack. 10 drops of fluid is enough. Over filling the reservoir should be avoided but will cause no damage to the unit. You may experience liquid dripping out the bottom of your locomotive if this happens by the bleeder valve. This is not a cause for concern.



The smoke feature is controlled by a micro switch located underneath the sand dome. To remove the sand dome, you must pull **STRAIGHT** up. **DO NOT** lift on an angle. This will cause damage to the support pins.

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Regular maintenance is a vital part of any electrical toy. While we have tried to make service intervals as infrequent as possible, you should be aware that lubrication may need to be performed at some time. Our Bronzite bushings use a self-lubricating formula, as the axles turn and generate heat, the bushings release an oil that both lubricates and polishes the axle at the contact point, allowing for better electrical connections and less often servicing. Small bits of debris may get stuck to the lubrication and axles during operation. After operation; or if you notice erratic running, Check the axles for layout bits, hair or other loose items that may find there way into the operational area. When handling the locomotive, please be careful as there are small parts that can be bent out of place or broken off. To avoid the spread of oils on your model, it is recommended that you use rubber gloves or finger cots - if you do get finger prints on your model, you can clean them a cotton swab. **DO NOT USE ACETONE** or other harsh cleaning checmicals, as this may damage your model. For information on how to service your model, please see the next page.

## Operators Service Manual - PROCEDURE FOR GREASE AND LUBRICATION.

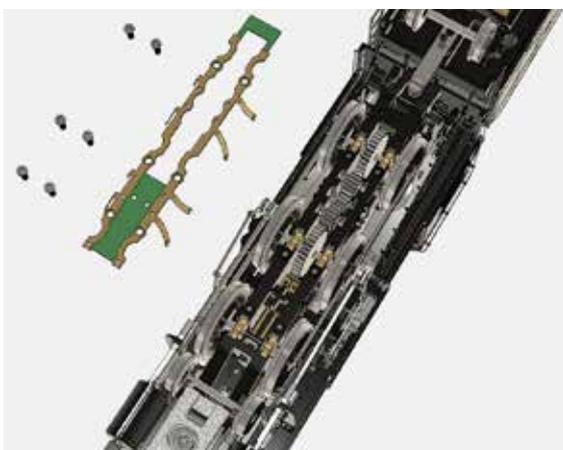
- REQUIRED - #0 Phillips screw driver, lite oil, lite grease, work station



On the bottom of your locomotive, there are a series of 6 (six) screws that secure the gear cover on. Placing the locomotive on a secure work station, such as a foam cradle, remove these screws. Place these screws somewhere where you will not lose them. A small dish or container is suggested to hold these screws and stop them from rolling off your work station.



After you have removed the screws and placed them in a safe location, lift off the GEAR COVER. Lift the cover STRAIGHT UP taking care not to damage the moulded brake supports. This will expose the IC and PICK-UPS and 6 more screws. Remove these 6 (six) screws and the IC and PICK UPS. Please take notice: DO NOT BEND THE ELECTRICAL PICK UPS! Creasing or crimping them will result in erratic pickup.



At this stage, you have successfully gained access to the DRIVE TRAIN, axles and gears. A small amount of lubrication placed on the teeth of the gears, and light oil placed on the axles will ensure smooth, trouble free operation. The locomotive has these applied at the factory and will NOT require these as new. **Only do this if you notice erratic operation.** At this point after lubrication is completed, you can reassemble the drive. Service is complete.

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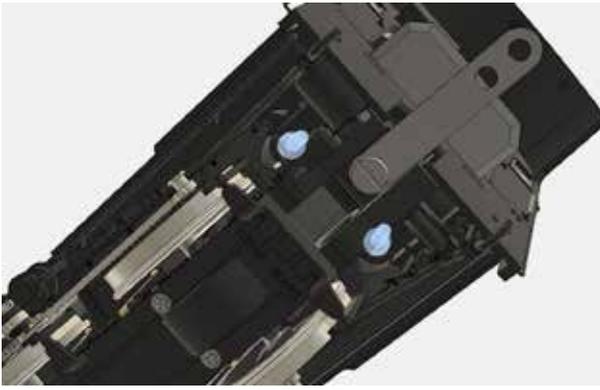
## Operators Service Manual - MOTOR REPLACEMENT

This servicing requires a steady hand, knowledge of electrical circuits and time. Do not perform this service if you are uncertain of your skill.

Like all motors or things with moving parts, parts have a tendency to wear down, even when maintained. As the main source of power for your locomotive, your motor undergoes stresses such as voltage variation, torque fatigue, fatigued springs or worn brushes and commutator. At some point, your motor may require servicing or replacement. To gain access to the motor, the boiler will need to be removed. We have made this as easy as we could while maintaining aesthetics and operational validity.

- REQUIRED - #0 Phillips screw driver, grease, soldering iron, flux, small flat head screw driver

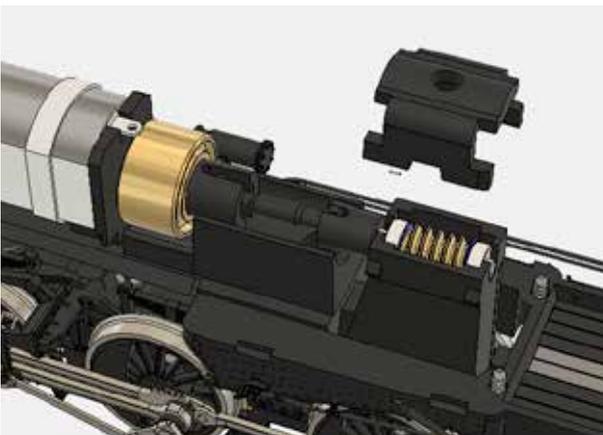
CONT'D



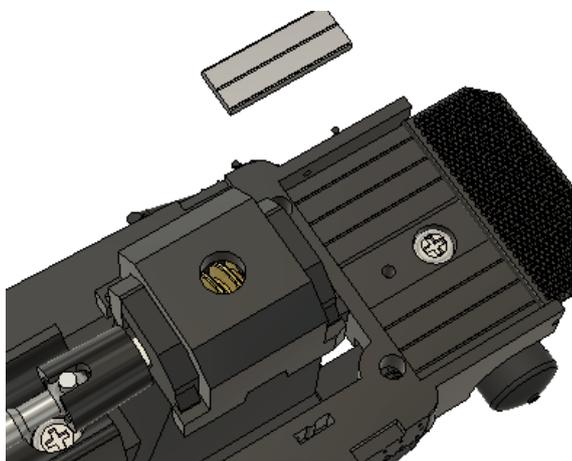
To remove the boiler, you will need to remove the 2 (two) screws as highlighted in the rendering to the left. Place these screws in a safe, secure location



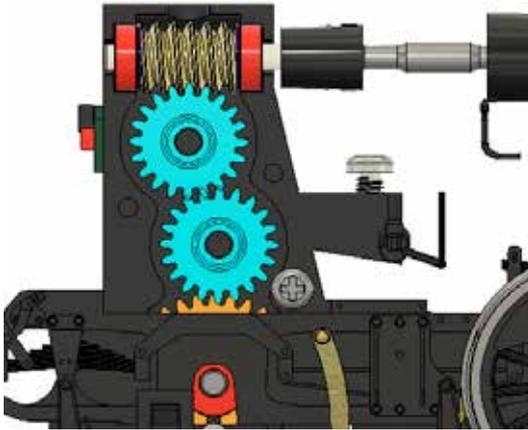
Tilting the boiler from the BACK forward (as depicted in the illustration) slide the boiler off. This will leave exposed the motor, universal, worm gear cover, and flywheel. Place the boiler in a safe place where not damage will occur.



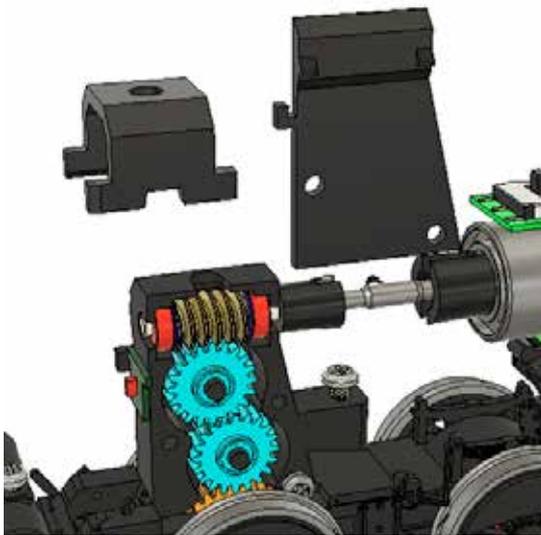
Using a small flat head screwdriver, pry off the worm gear cover, exposing the worm gear. At this point, you can service the motor by de-soldering the leads and replacing or changing. **Please note that changing any electronics in your locomotive will void your warranty.**



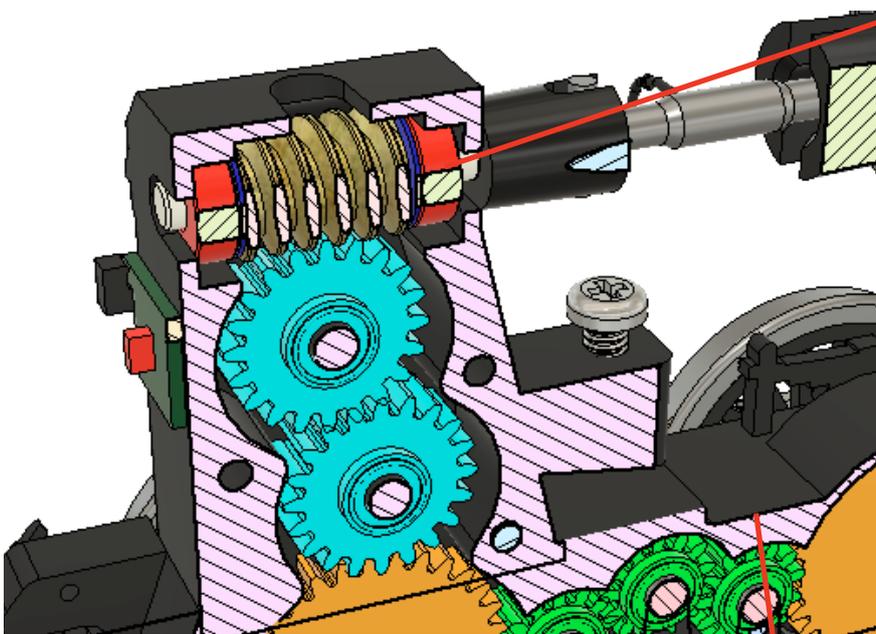
Now is a good time to access the drive mechanism should you need to lubricate and service. With the boiler and motor removed you will need to remove the screw cover on the cab floor. The two screws secure the boiler bottom, which can now lift straight out.



With the chassis exposed, you can put lite GREASE in the service hole of the drive mechanism. Not much grease is needed, and be carefull NOT to over pack the drive with grease. There is a CAM located on the front axle that will not function correctly if coared in grease. You can also remove the 2 cover screws (shown in RED) to access the worm gear, idler gear and counter gears. While there is rarely need for servicing in this area, it does hap-pen on occassion.



If grease gets between the worm gear assembly (worm gear, washer, bronzite bushings) you should remove the grease and use lite oil. The metal on metal contact surfaces require lit oil to penetrate the tight tolerances. GREASE WILL NOT CORRECTLY LUBRICATE THE WORM GEAR WASHERS AND BUSHINGS AND MAY RESULT IN MECHANISM FAILURE IF NOT CORRECTLY APPLIED.



The bronzite bushing requires lite oil for correct lubrication and operation! This cross section shows the gears in operatioal order. Modification of gears will result in erratic running. DO NOT USE ANY OTHER GEARS FOR OPERATION.

The front driver axle has a CAM on it and is NOT a geared driver. This allows the optional smoke unit to synchronize with the drivers as they push the pistons.

MODIFICATIONS TO THE DRIVE WILL VOID ANY AND ALL WARRANTIES ASSOCIATED WITH THIS PRODUCT

DCC / DC / SOUND:

Your model features a DUAL MODE decoder. Able to switch from DC to DCC automatically. Sounds are from actual D-10 recordings and have been digitally re-created to bring you these authentic sounds. While we have worked very hard with DIGISIGHT Technologies to make our custom decoder, you can use any 21 pin decoder. Please note that if you change your decoder, it will void your electronics warranty.

FUNCTION	TYPE	CV CHART			
		CV	FUNC.	DEFAULT	RANGE
F0	Head Light	1	Loco address	3	1-127
F1	Start up	2	Min. Start Voltage	0	1-255
F2	Short Whistle	3	Starting Delay	7	0-255
F2	Short Whistle	4	Braking Delay	7	0-255
F3	Bell	5	Maximum Speed	0	0-255
F4	Coupler/Uncouple	6	Speed Curve	0	0-255
F5	Coal Shovel	7	Version Number	21	N/A
F5	Coal Shovel	8	Manufacturers ID	30	N/A
F6	Number Board	9	PWM Generator	1	0,1,2
F7	Airpump	10	EMF Cut Off	255	0-255
F7	Airpump	11	Hold Time	1	0,1
F8	Blower	17	Ext. Loco Address HIGH	192	192-255
F9	Dynamo	18	Ext. Loco Address LOW	100	0-255
F10	Forward Whistle	19	Consist Address	0	0-127
F11	Reverse Whistle	21	Consist Model F1-F8	255	0-255
F11	Reverse Whistle	22	Consist Model FL,RL, F9-12	255	0-255
F12	Safety Valve	23	Acceleration	0	0-255
F13	Valvecock	24	Deceleration	0	0-255
F14	Injectors	29	Config. Register*	6	0-255
		33	33-46 Range of Values	N/A	0-255
		47	47-52 Light Effect Map	N/A	1,2,4,8,16,32,64,128
		53	Motor Current Protection	120	0-255
		54	Thermal Guard	100	0-255
		58	Config Register **	51	0-255
		59	PID Kfr	230	0-255
		60	PID Kp	40	0-255
		61	PID Ki	8	0-255
		62	PID Kt	180	0-255
		63	PID Kint	0	2,4,8,16
		65	PID Steam Port	0	0-255
		66	PID Smoke Control port	0	1,2,4,8,16,32,64,128
		67	67-94 Speed Table		0-255
		113	Master Volume	255	0-255
		114	Sound Synch	70	0-255
		115	Gradual Fade effect	50	1-254
		116	Steam Box Flicker	100	1-254
		118	118 - 124 Light Effect	0	1,2,4,8,16,32,64,128
		127	DSL info	N/A	N/A
THIS IS NOT AN EXHAUSTIVE LIST.					

# Warranty

Each locomotive leaves the factory after careful inspection and running to ensure that all mechanisms and features are operative. While damage may occur from handling by shipping and courier companies, we have designed our packaging to absorb most of the jolting that may occur, however some damage may still occur. Small parts that become dislodged, loose or fall off during transport are NOT covered under warranty for service, however, pieces that may have become damaged in transit we will replace for you under warranty without question with a valid proof of purchase. If you have purchased the unit directly from us, there is no need to provide additional paperwork. If you receive your locomotive completely damaged beyond what you may consider an acceptable amount, please DO NOT USE your locomotive. We will call for a pick up to have your unit replaced under warranty. Should you choose to run your unit in this damaged state we will take to mean that you have accepted the condition that your locomotive is in and that you are able to accept the condition that it is in. Please note that if you choose to run your locomotive in this state, we cannot be held responsible for damage that may occur on your layout or other trains.

While we have yet to see a locomotive that is in this much need of repair, it is better we set the rules down now.

All units are warranted against manufacturer's defects in running and aesthetics for 45 days from the original date of purchase from the ORIGINAL purchaser.

For warranty issues, we will try to troubleshoot the problems first by email or phone. Sending a model train back and forth can sometimes cause more damage than it can fix. Simply send a photo to us at [service@shiratrains.ca](mailto:service@shiratrains.ca) along with your questions or concerns and we will get back to you as soon as we can to ensure that your down time is set to a minimum.

## CONTACT INFORMATION:

HEAD OFFICE

SERVICE DEPT

Email: [support@shiratrains.ca](mailto:support@shiratrains.ca)

Website: [www.shiratrains.ca](http://www.shiratrains.ca)

Your locomotive has been designed in CANADA by SHIRA TRAINS and assembled with pride in Dongguan City, Guangdong province at the YIHE ARTS AND CRAFTS CO., LTD.