



Function Manual



Content

1. Basic understanding of Faraday FST-305 transmitter	P. 2-3
2. Installing battery to Faraday FST-305 transmitter	P. 4
3. Binding a tank with the Faraday FST-305 transmitter	P. 5
4. Operating mode selection - Auxiliary power mode	P. 6
5. Operating mode selection - Engine running mode	P. 7
6. Basic maneuvering of the tank	P. 8
▶ 6.1 Movement	P. 9
▶ 6.2 Turret rotation	P. 9
▶ 6.3 Steering	P. 10
7. How to adjust the trim ?	P. 11
8. Gaming - Battle mode selection - Team N (Neutral)	P. 12
9. Gaming - Battle mode selection - Team AB	P. 13
10. Life status indicator	P. 14
11. Maintenance	P. 15
12. Sound loudness	P. 16
13. Infrared battle coverage	P. 17
14. Cannon damaging level	P. 18
15. Speed performance	P. 18
16. How to select between Mode 1 & Mode 2 ?	P. 19
17. Real sound	P. 20
18. Low battery indicator	P. 20
19. Shut off reminder system	P. 21
20. Sleep mode	P. 21
21. Disclaimer	P. 22

1. Basic understanding of Faraday FST-305 transmitter



1. Left shoulder button

Machine gun sound effect

2. Right shoulder button

Main gun firing sound effect and release of infrared signal beam

3. Left trimming button

Compensate the deviation occurs from the driving motors. When left trimming button is pressed, the tank will trim back.

4. Right trimming button

Compensate the deviation occurs from the driving motors. When right trimming button is pressed, the tank will trim back.



5. Team AB & N button

Select your gaming battle mode: Team AB mode or Team N mode

6. Volume adjustment

Volume can be remotely adjusted by pressing the increase and decrease volume button. The speaker loudness is defined as four levels, the first level being mute, second level is low volume, third level is medium volume and fourth level is the highest volume. (Fourth level volume loudness is not recommended for indoor use)

7. Power switch

When power switch is put to on position, after binding the FST-305 transmitter with the tank, the tank will then enter "Auxiliary power mode". Meanwhile the control panel light indicators will appear in the following colours.

8. Ignition start & shut off button

When power switch is put to on position, after binding itself with the tank, the tank will then enter "Auxiliary power mode". In order to drive the tank with movement, one must press the ignition button. When ignition button is pressed, the tank will enter "Engine running mode" followed by ignition sound. When ignition button is pressed again, the tank will return to "Auxiliary power mode" followed by engine shut off sound.

1. Basic understanding of Faraday FST-305 transmitter



9. Left control stick

To accommodate both the left and right handed players, Forces of Valor - Waltersons had designed a quick throttle changing system in the Faraday FST-305 transmitter. Under left handed throttle mode, left control stick handles forward, backward, left, right, centre rotation left and centre rotation right movement of the tank. Vice versa, if right handed throttle mode is selected, right control stick will handle forward, backward, left, right, centre rotation left and centre rotation right movement of the tank.

10. Right control stick

When left handed throttle mode is selected, Right control stick handles turret rotations and main gun barrel elevations. Vice versa, if right handed throttle mode is selected, left control stick will handle turret rotations and main gun barrel elevations.

11. Status indicators panel

11.1 Life counting indicator - For battle use only (Refer to P.14)

11.2 Binding indicator

When this light turns in red, it indicates that the communication between the transmitter and the receiver inside the tank has been established. When this light turns off, it indicates that there is no communication between the transmitter and the receiver inside the tank.

11.3 Machine gun indicator

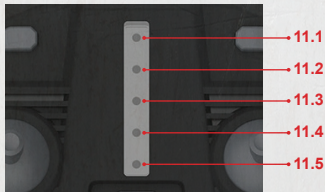
This light turns in red, when machine gun sound effect is activated, otherwise it is normally shut off.

11.4 Cannon indicator

This light turns in red, when cannon is fired from the tank, otherwise it is normally shut off.

11.5 Driving mode indicator

Once the power switch is put to "On" position, this light turns in red. It indicates that the tank has now entered the auxiliary power mode. When the ignition button is pressed, this light turns in blue, it indicates that the tank has now entered the engine driving mode.



2. Installing battery to Faraday FST-305 transmitter

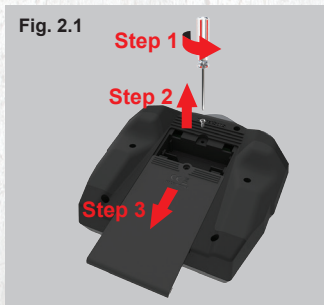


Fig. 2.1
Release the battery compartment cover with a Philip head screw.

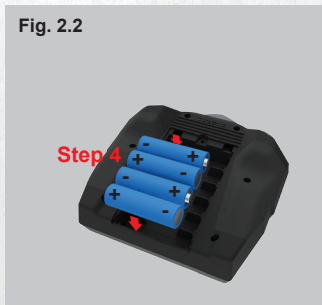


Fig. 2.2
Insert 4 pieces of 1.5V AA Alkaline battery into the battery compartment.

**** Notice:** Please make sure that the battery polarity is correct before insertion.

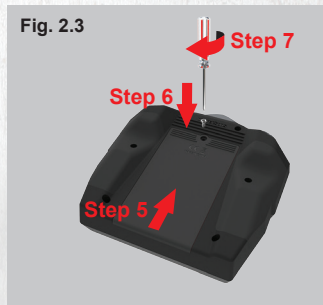


Fig. 2.3
Close the battery compartment cover, and secure it with a Philip head screw,

3. Binding a tank with the Faraday FST-305 transmitter

Fig. 3.1



Fig. 3.2

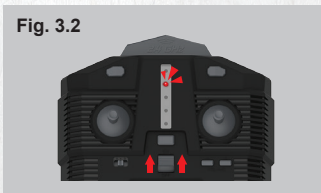


Fig. 3.3



Fig. 3.1

Each tank had been paired in advance with a Faraday FST-305 2.4GHz transmitter in the factory. Firstly, switch on the tank, the LED light on the turret should turn in green color. Secondly, switch on the power switch in the transmitter, while the transmitter and receiver are looking to establish a connection, the second top LED light on the central panel would remain shut off.

Once the signal connection between the transmitter and receiver is established, the second top LED on the central panel would begin to flash in red color, that means the tank has now entered the auxiliary power mode. On occasions when players would like to bind their tanks with different transmitters. Please perform the following two instructions:

Fig. 3.2

Press on the ignition button, meanwhile put the power switch to "On" position, the second LED light on the central panel would begin to flash in red color. The flashing red LED light indicates that the transmitter begins to send out signals to any potential receivers in its surrounding environment.

Fig. 3.3

Switch on the tank. When the receiver inside the tank detects signal from transmitter, the fifth LED light would immediately be flashing in red color, meanwhile the second top LED light would turn in solid red color, indicating the connection between the transmitter and the receiver has been established. Once this procedure has been completed, the tank would enter the auxiliary power mode.

4. Operating mode selection - Auxiliary power mode

Fig. 4.1

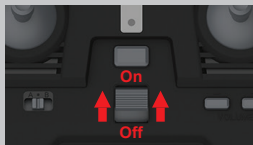


Fig. 4.1

The middleweight 1/24 scale radio control tank is designed like a real tank, when you switch power button.



Machine gun



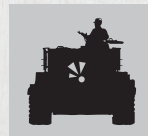
Main gun firing



Turret 320° rotation



Main gun barrel 20° elevation



Headlamp on/off

5. Operating mode selection - Engine running mode

Fig. 5.1



Engine ignition



Engine idling



Acceleration



Deceleration



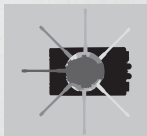
Engine shut off



Machine gun



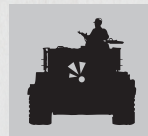
Main gun firing



Turret 320° rotation



Main gun barrel 20° elevation

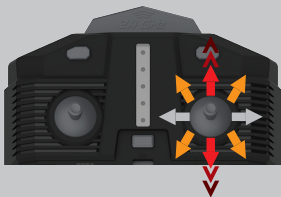


Headlamp on/off

6. Basic maneuvering of the tank

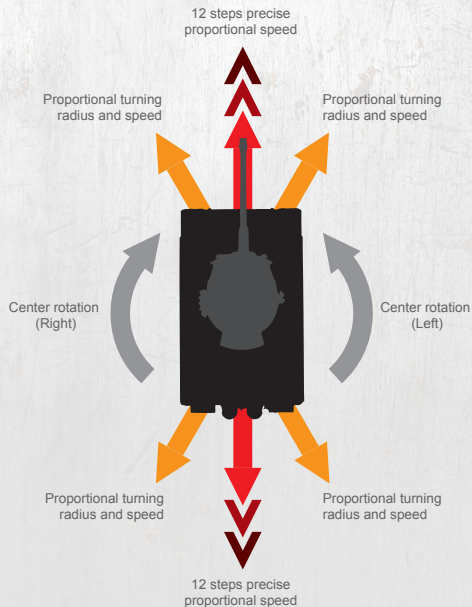
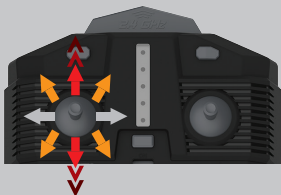
Mode 1

(Right hand throttle mode)



Mode 2

(Left hand throttle mode)



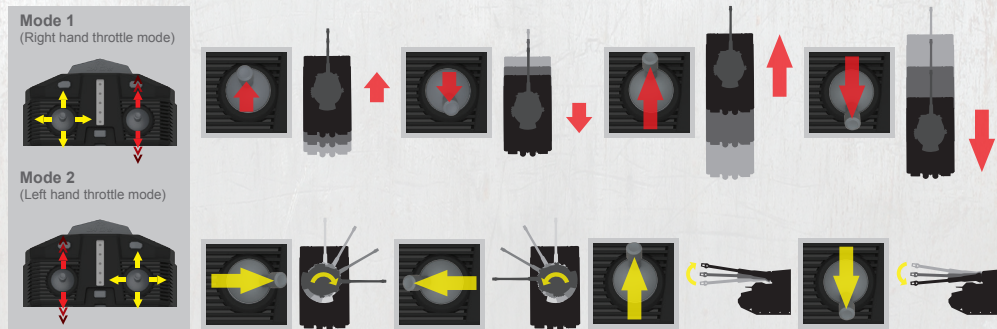
6. Basic maneuvering of the tank

6.1 Movement

Every middleweight tank is programmed with a digital proportionate throttle control system. Its acceleration speed is proportionate to the amount of throttle applies.

6.2 Turret rotation

The rotation speed of the turret is also a digitally proportional system. By pushing the right joystick toward the left, the turret will begin to rotate leftward. The more leftward you push the joystick, the quicker the the turret will rotate to the left. Vice versa when the right joystick is pushed toward the right.



6. Basic maneuvering of the tank

6.3 Steering

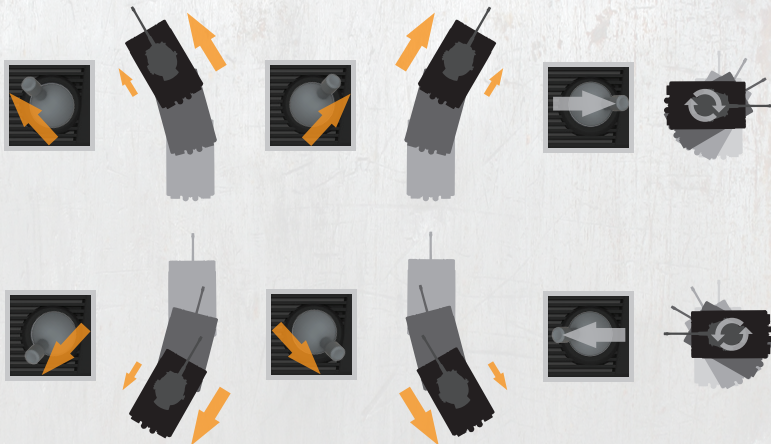
Mode 1

(Right hand throttle mode)



Mode 2

(Left hand throttle mode)



7. How to adjust the trim ?

Fig. 7.1

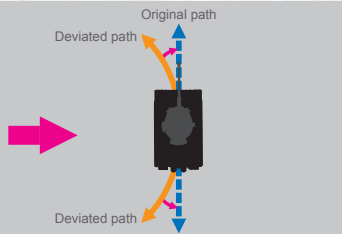
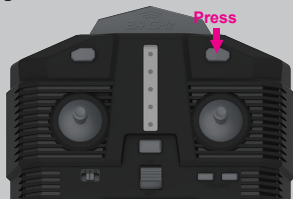


Fig. 7.1

Press right trim button and trim back the tank.

Fig. 7.2

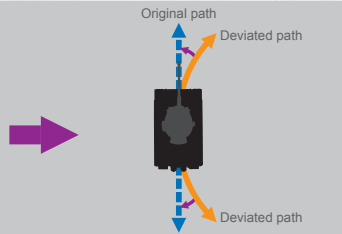
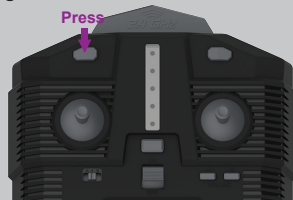


Fig. 7.2

Press left trim button and trim back the tank.

8. Gaming feature - Battle mode selection - Team N (Neutral)

Fig. 8.1



Fig. 8.2

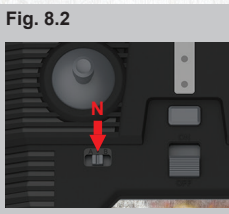


Fig. 8.3



Fig. 8.4



How to set your team?

Every Tank is set to Team N (neutral) as default. in this setting you can practice your aim with the target board provide. under team N the shooting board will produce a explosion anytime it is hit by the infrared beam emitted from your tank.

Fig. 8.1

The shooting target board is powered by 2 x AAA size batteries (not included).

Before engaging in an infrared battle with opponent players, one can practice your eye sight with the Infrared shoot target practicing board.

Fig. 8.2

Put team selection switch to N position.

Fig. 8.3

Aim your tank main gun barrel toward the centre of the target board.

Fig. 8.4

Press the main gun cannon firing button located on the right shoulder of the transmitter, when the infrared signal hits the sensor inside the target board, it will produce an explosion sound.

9. Gaming feature - Battle mode selection - Team AB

Fig. 9.1

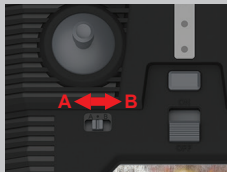


Fig. 9.2



Fig. 9.3



The system was first developed for use with our 1/72 scale bantamweight tanks which allows 4 players to engage in battle at any one point. Further development and the benefit of extra space inside the chassis of the 1/24 scale tanks has given them the ability to have 16 players! in a single battle.

Figure 9.1

Put the team selection switch to position A or position B and form your squadron.

Figure 9.2

Start your tank (Your tank will memorise your team selection in your next start, team A B mode applies in both auxiliary power and engine running mode).

Figure 9.3

Up to 16 players participate in a game with team combination up to 15 versus 1.

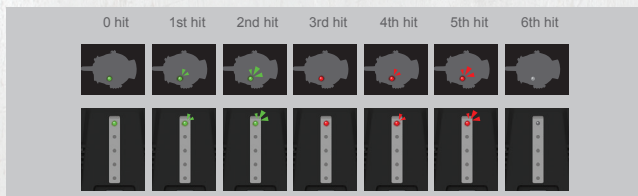
** Friendly shoot will not be counted from same team member.

10. Life status indicator



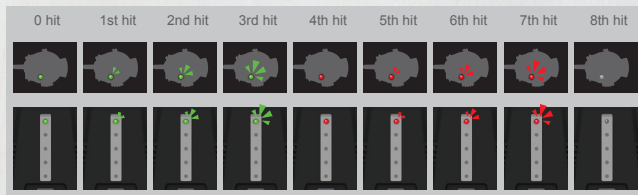
Attack by heavy damage cannon 


Hit from opponents	Life counting indicator
0 hit	Green
1st hit	Quick flashing green
2nd hit	Red
3rd hit	Quick flashing red
4th hit	LED off



Attack by medium damage cannon 

Hit from opponents	Life counting indicator
0 hit	Green
1st hit	Moderate flashing green
2nd hit	Quick flashing green
3rd hit	Red
4th hit	Moderate flashing red
5th hit	Quick flashing red
6th hit	LED off



Attack by low damage cannon 

Hit from opponents	Life counting indicator
0 hit	Green
1st hit	Slow flashing green
2nd hit	Moderate flashing green
3rd hit	Quick flashing green
4th hit	Red
5th hit	Slow flashing red
6th hit	Moderate flashing red
7th hit	Quick flashing red
8th hit	LED off

11. Maintenance

Fig. 11.1



Fig. 11.2

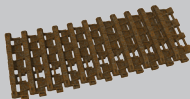
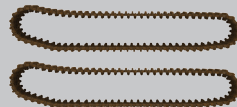


Fig. 11.3



If the tracks on the tank begin to slack, immediately stop using the tank to avoid any potential damage. please repair using the following instructions.

Fig 11.1

The track caterpillars are assembled in a segmented formation, each segment clips onto it's neighboring track.

Fig 11.2

The track segment can easily be clipped together by hand.

Fig 11.3

148 pieces for the Tiger tank left & right tracks.

** For more information including video tutorials and parts availability, please visit our website.

<http://www.forcesofvalor.com>

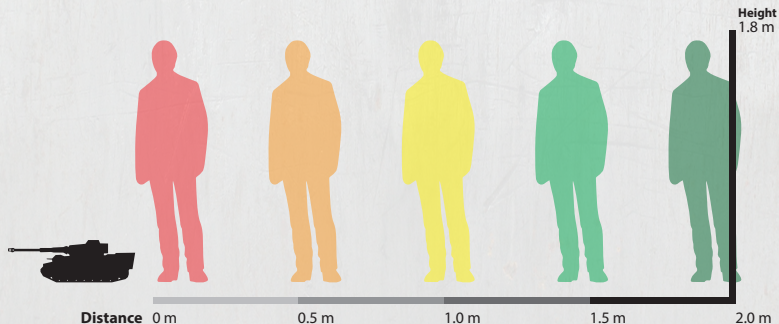
<http://www.waltersons.com>

12. Sound loudness

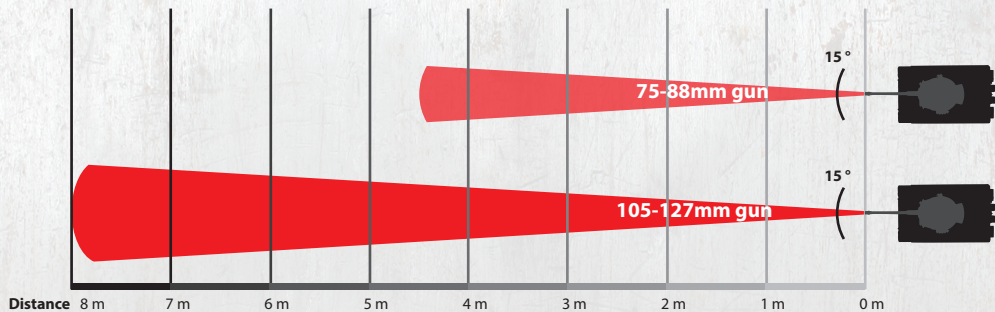
	0 m	0.5 m	1.0 m	1.5 m	2.0 m
Loud (dB)	78.3	77.9	78.9	76.6	75.6
Medium (dB)	67.2	66.8	66.6	65.1	64.4
Low (dB)	54.6	55.9	55.2	54.4	53.7

*Mute ~ approx. 40 dB (due to noises from the surrounding environment)

** Four sound loudness levels: 1) Mute 2) Low 3) Medium 4) Loud



13. Infrared battle coverage



14. Cannon damaging level

Tanks from forces of valor-waltersons also work on a scaled damage system depending on the real life tanks barrel size and stopping power.

Each tank starts a battle with 120 points. but can be separated into three levels of damage. light, medium and heavy

Light cannons will deduct 15 points per registered hit on a opponents tank. 8 hits to claim the win!

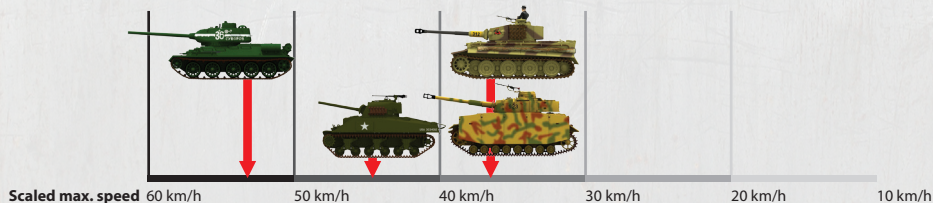
Medium cannons will deduct 20 points per registered hit on a opponents tank. 6 hits to claim the win!

Lastly, Heavy cannons will deduct 30 points per registered hit on a opponents tanks. 4 hits to claim the win!



15. Speed performance

Not only does the tank damage level change from tank to tank but also it's speed. through software and motor programming each type of tank drives to the scaled speed of the real life version.



16. How to select between Mode 1 (Right hand throttle mode) & Mode 2 (Left hand throttle mode) ?

Fig. 16.1

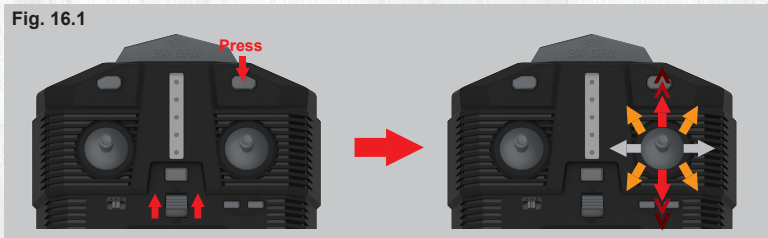


Fig. 16.1

Press right trim button and power switch to "On" position at the same time. The controller will be set with right hand throttle mode.

Fig. 16.2

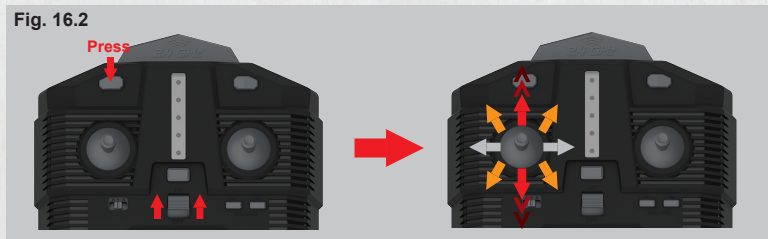


Fig. 16.2

Press left trim button and power switch to "On" position at the same time. The controller will be set with left hand throttle mode.

17. Real sound

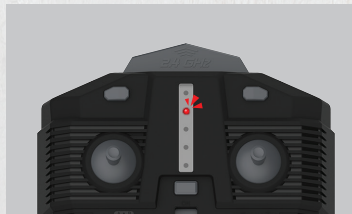
The moment when you switch on any Forces of Valor - Waltersons 24th scale Middleweight radio control tank, you'll immediately notice the unique sound effects generated from the speaker, which were actually recorded next to a working tank using special sound recording equipment.

To precisely reproduce the quality of the original sound profile, we had deployed a Class D amplifier to enhance the bass profile, if you close your eyes and let the tank drive pass you, it almost feel like standing next to a real tank.



18. Low battery indicator

When the power level in the tank is lower than 5.0 V, the tank would send signals to the transmitter, to inform users that the tank is running low on battery. The second top LED indicator in the center panel would begin to flash in red color. Once new batteries are inserted to the tank, this LED indicator would turn in solid red color, indicating that power level is sufficient.



19. Power switch shut off reminder system

The Forces of Valor - Waltersons 24th scale middleweight radio control tank is equipped with a unique safety feature called "Power switch shut off reminder". Once the Faraday FST-305 2.4GHz transmitter is switched off, the signal connection between the transmitter and the receiver inside the tank would be interrupted.

When the receiver inside the tank does not detect any incoming transmitter signal, after 60 seconds, the headlight turning on/off sound effect, "Clicking" would be played. This sound effect is to remind users that the tank has not been switched off. The "Clicking" sound effect will be played every 30 seconds until the power switch in the tank is put to off position.



30 sec.

20. Sleep mode

Unfortunately, the above shut off reminder system might not be useful when the tank is leave unattended. To avoid any potential hazards occurring from the electronics, the tank has already been programmed with the next level safety measurement, "Sleep Mode". After the first 60 seconds, when the receiver in the tank does not detect any incoming signals from the transmitter, the tank would begin to play a headlight turning on/off sound effect to reminder users that the tank is still powered on.

After that, for every next 30 seconds interval, the headlight turning on/off sound effect would be played again to further remind users that the tank is still powered on. When the tank is leave unattended in exceeding 5 minutes in total since it lost incoming signals from transmitter, the software would execute the "Sleep mode" protocol, which life counting status LED on the tank turret would be shut off, and the tank would then enter "Sleep Mode".



To restart the tank from sleep mode, users must put the power switch to off position, and then put the power switch back to on position.

21. Disclaimer

This device (radio control tank) complies with Part 15 of the FCC rules. Operation is subjected to the following two conditions:

1. This device (radio control tank) may not cause harmful interferences
2. This device must accept any interference received, including interference that may cause undesired operation

NOTE: This device (radio control tank) has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device (radio control tank) generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user may try to correct the interference via one or more of the following measures:

1. Reorient or relocate the receiving measures
2. Increase the separation between the device (radio control tank) and receiver
3. Connect the device (radio control tank) into an outlet on a circuit different from that to which the receiver is connected
4. Consult the dealer or an experienced radio or television technician for help.

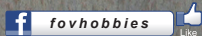
NOTE: Repair services required for the following reasons will not be covered by guarantee:

1. Malfunctions due to misuses (circumstances include reverse battery connections, wet parts and collisions etc...)
2. Malfunctions due to improper assembly or restructuring or use of non Waltersons or Forces of Valor factory approved components
3. Malfunctions caused during moving or by falls or poor storage conditions
4. Malfunctions caused by the use of unspecified batteries. Electric motors damages caused by driving over terrains with excessive resistance
5. Accidental fall or strong collisions, which leads to damages on tanks or transmitters
6. Tank or transmitter gets wet after being operated in wet, high humidity or moisture places, which leads to potential short circuit in the electronic circuits
7. Tank or transmitter, after being operated in places with excess amount of dirt, muds or sands, which leads to potential malfunctions on mechanical components
8. Other malfunctions due to violation of warnings or pre-cautions described in quick start menu and technical menu.
9. Although the tank is equipped with auto shut off system, it is highly recommended to put the power switch to off position, and remove the batteries in both tank and transmitter, if one do not intend to use the tank over 12 hours.



Forces of Valor Hobbies Limited

Unit S-T, 5/f
Valiant Industrial Center
2-12 Au Pui Wan Street
Fo Tan, N.T.
Hong Kong
Email: info@forcesofvalor.com



Visit us at
www.forcesofvalor.com

Copyright © Forces of Valor™ Hobbies Ltd.
All rights reserved.



Waltersons Industry Limited

Unit 2 Colthrop Business Park
Colthrop Lane
Thatcham
Berkshire, RG19 4NB
United Kingdom
Email: info-global@waltersons.com



Visit us at
www.waltersons.com

Copyright © Waltersons™ Industry Ltd.
All rights reserved.



WALTER & SONS
INDUSTRIES HOLDING LTD.

Waltersons and Forces of Valor are part of
the Walter & Sons Industries Holding Ltd.