



INSTALLATION INSTRUCTIONS

ENT-109-001

OEM SHOCK ABSORBER SPACER KIT TO SUIT FORD F-150
14th Gen (P702) 2021+



Lift Height Approx: 3.5" (57mm) Front / 1.5" (25mm) Rear - *(No Accessories Fitted)*



NOTE

Some images contained in these instructions are generic and are a representation of the actual model and/or parts used. Some steps may also show parts out of sequence to the instructional steps.



6 Hours
Approximately



SAFETY WARNING

ENTHUZE requires you read and understand the safety and pre-install directions on page 2 and 3 before commencing installation of this product.

**Occupational health and safety procedures
must be observed at all times**

**IMPORTANT WARNINGS**

READ THESE INSTRUCTIONS THOROUGHLY AND COMPLETELY
BEFORE COMMENCING INSTALLATION.

INSTALLATION BY A CERTIFIED PROFESSIONAL MECHANIC IS HIGHLY RECOMMENDED.

ENTHUZE CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE OR FAILURE
RESULTING FROM IMPROPER INSTALLATION.

**SAFETY WARNING****MISUSE OF THIS PRODUCT COULD LEAD TO INJURY OR DEATH**

- Suspension systems or components that enhance the on and off road performance of your vehicle may cause it to handle differently than it did from the factory. Extreme care must be used to prevent loss of control or vehicle rollover during abrupt manoeuvres.
- Always operate your vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Failure to drive safely may result in serious injury or death to driver and passengers.
- ENTHUZE recommends avoiding quick sharp turns and other sudden manoeuvres.
- ENTHUZE does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.
- It is the responsibility of the retailer and/or the installer to review all State or Territory local laws with the end user of this product, relating to bumper height laws and the lifting of their vehicle before the purchase and installation of any ENTHUZE product.
- All raised vehicles have increased blind spots; damage, injury and/or death can occur if these instructions are not followed.
- Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off road use.

**CUSTOMER INFORMATION**

Customer Name: _____ Date: _____

Contact: _____

Part Number: _____ Batch Number: _____

Any damage or losses caused by improper installation and application, goes beyond our quality warranty.



IMPORTANT WARNINGS



INSTALLATION WARNING

- All steps and procedures described in these instructions were performed while the vehicle was properly supported on a two post vehicle lift with safety jacks.
- Use caution during all disassembly and assembly steps to ensure suspension components are not overextended, causing damage to any vehicle component and/or parts included in this kit.
- Included instructions are guidelines only for recommended procedures and are not meant to be definitive. The installer is responsible to ensure a safe and controllable vehicle after performing any modifications.
- ENTHUZE recommends the use of an vehicle specific OE Service Manual for disassembly and assembly of factory and related components.
- Unless otherwise specified, tighten all bolts and fasteners to standard torque specifications listed within the OE Service Manual.
- Suspension components that use rubber or urethane bushings should be tightened with the vehicle at normal ride height. This will prevent premature wear or failure of the bushing and maintain ride comfort.
- Larger tyre and wheel combinations may increase leverage on suspension, steering and related components.
- Due to variations in payload options and initial ride height, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle ride height. Always measure the vehicle ride height prior to commencing installation.



SAEJ2492 WARNING

By installing this product, you acknowledge that the suspension of this vehicle has been modified. As a result, this vehicle may handle differently to that of factory equipped vehicles. As with any vehicle, extreme care must be used to prevent loss of control or rollover during sharp turns or abrupt manoeuvres.

Always wear seat belts and drive safely, recognising that reduced speeds and specialised driving techniques may be required. Failure to drive this vehicle safely may result in serious injury or death. Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions.

Some modifications (and combinations of modifications) are not recommended and may not be permitted in your State or Territory. Consult your owner's manual, the instructions accompanying this product, and State or Territory laws before undertaking these modifications. You are responsible for the legality and safety of the vehicle you modify using these components.



IMPORTANT NOTE

Due to the nature of Ford's lane keeping/lane departure features, it may be necessary to have the camera and sensors of the vehicle recalibrated to ensure these systems function as they did prior to install. Please contact your local Ford dealership to set up an appointment.

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PRE-INSTALLATION PROCEDURES

It is imperative you record the following measurements of factory components in the tables below.

ENTHUZE tests and records as much data from each application as is available at the time of product development. Vehicle manufacturers may change components or add models with different options and ENTHUZE cannot be held responsible for these alterations.

Recording and not exceeding the fender-to-hub-centre ENTHUZE recommends, will ensure the lift on the vehicle is correct.

These measurements will affect the performance of this lift kit. Failure to ensure proper stock conditions may result in over lifting, causing premature failure of axles, CV boots and drivetrain.

Overlifting will cause a shock top off condition, resulting in poor ride quality accompanied by pops and clunks which are symptoms of prematurely wearing components. Overlifting a vehicle will also result in an incorrect wheel alignment, consequently causing tyres to wear incorrectly.

Incorrect alignment will also cause poor vehicle handling issues including, but not limited to understeer.

Failure to adjust headlights may create dangerous driving conditions for you and other drivers on the road. Record the headlight position before installation of this lift or levelling kit, adjusting to the original factory position after completion to ensure a safe and enjoyable driving experience.

VEHICLE HEIGHT MEASUREMENTS

	Left-hand Side Before	Left-hand Side After	Right-hand Side Before	Right-hand Side After
Front				
Rear				

Measurement is to be performed from the centre of the hub to fender edge, straight up from the hub.

HEADLIGHT MEASUREMENTS

Left-hand Side Before	Left-hand Side After	Right-hand Side Before	Right-hand Side After

A Factory Service Manual for your specific Year / Make / Model is highly recommended for reference during installation.

- All lifted vehicles may require additional driveline modifications and / or balancing.
- A vehicle alignment is REQUIRED after installation of this product.
- Speedometer / Computer recalibration is required if changing +/- 10% from factory tyre diameter.
- A vehicle lift or hoist greatly reduces installation time. Installation time estimates are based on an available vehicle hoist.
- Vehicle must be in excellent operating condition. Repair or replace any and all worn or damaged components prior to installation.

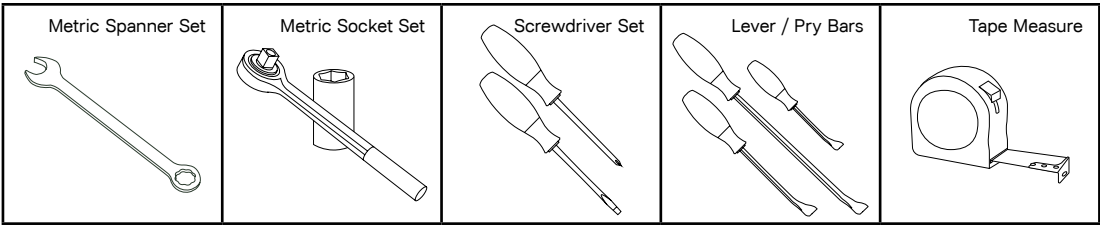
ENT-109-001 KIT PARTS LIST

SPACER KIT TO SUIT OEM SHOCK ABSORBERS

No.	Description	Qty
1.	Upper Control Arm - LHS	1
2.	Upper Control Arm - RHS	1
3.	Strut Spacer	2
4.	Nut Flange Serrated (M10 X 1.5mm)	6
5.	Spacer Coil - Front	2
6.	Shock Extension - Rear	2
7.	Bolt Flange (M12-1.75 X 80mm)	2
8.	Nut (M12-1.75mm)	2

No.	Description	Qty
9.	Leaf Spacer Block	2
10.	U-Bolt (M14)	4
11.	Alignment Cam	4
12.	Alignment Plate	4
13.	Bump Stop Spacer - Rear	2
14.	Bolt (M10 X 1.5 X 70mm)	2

TOOLS REQUIRED



REFERENCE DIAGRAMS

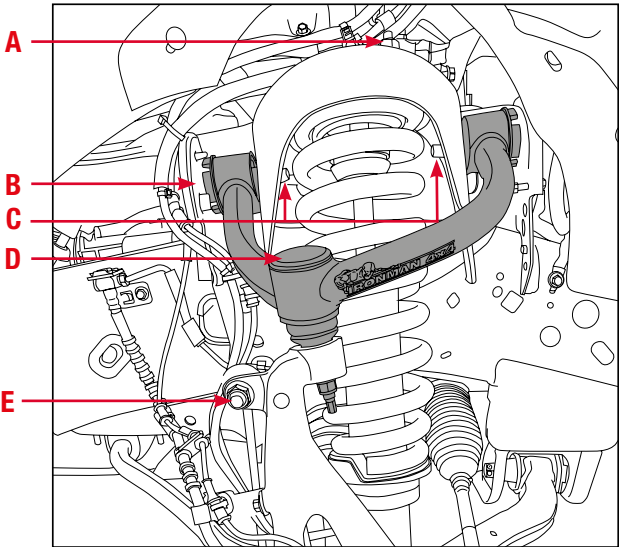


Fig 1

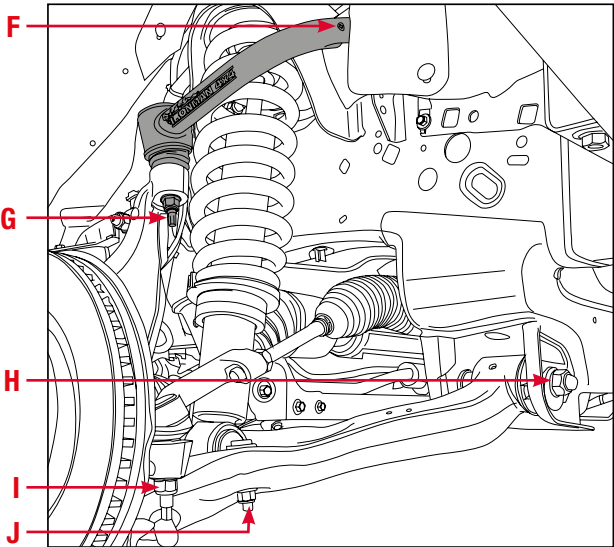


Fig 2

Any damage or losses caused by improper installation and application, goes beyond our quality warranty.

PRE-INSTALLATION

- Before installing, ensure spacer kit application is compatible with the vehicle.
Unwrap all components taking care not to damage or scratch in the process. Inspect for any damage.



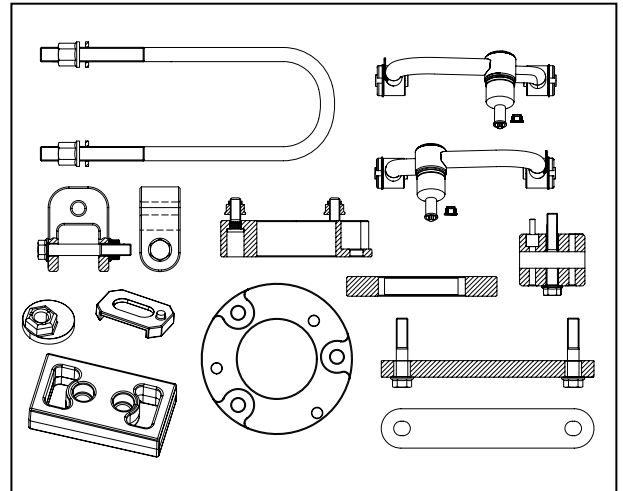
NOTE

Retain all OEM (factory) hardware and components unless advised to discard.



TIP

It is good practice to lay out all parts to cross-reference against the parts list and record Batch Numbers.



- All of the following steps should be repeated on the opposite side of the vehicle, unless otherwise specified.

REMOVAL AND INSTALLATION PROCEDURES – FRONT

- We recommend all steps and procedures described in these instructions are performed while the vehicle is properly supported on a two post vehicle lift with safety jacks.
Otherwise, park vehicle on a clean flat surface, chock the rear wheels for safety and engage the parking brake.
Disconnect the vehicle power source at the ground terminal on the battery.



NOTE

Check manufacturer's handbook for any recommendations as some models may require battery back up.

Lock the steering wheel in the straight forward position with the column lock or steering wheel locking device.

Raise the front of the vehicle and support with safety jack stands at each frame rail behind the lower control arms and remove the front wheels.

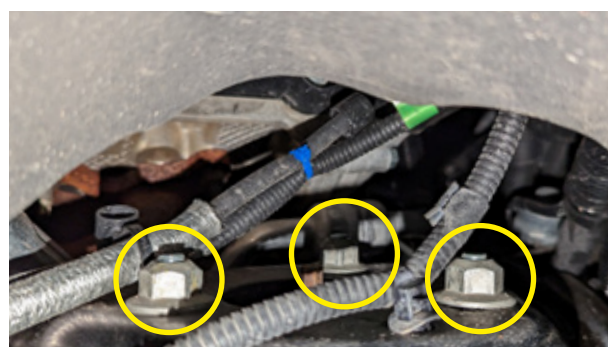
4. Remove sway bar link nut (E) and push sway bar link through the upright, allowing it to swing freely. Retain factory nut.



5. Remove nut (I) and separate tie rod ball joint from upright.
Use a ball joint breaker / remover tool to release ball joint from taper.
Remove the ball joint from the upright.



6. Loosen the three (3) strut top nuts (A).
Remove the two (2) rear nuts and leave the front nut in place.



7. Loosen and remove the lower nuts for the strut (J).



8. Loosen and remove the lower control arm bushing bolts (H).



WARNING

Ensure the upright/knuckle is supported prior to completing this step as irreparable damage to the driveshafts CVs may occur.



9. Remove the lower control arm pivots from the frame side pivot pockets.
Swing the lower control arm down, whilst removing the lower strut studs from the control arm.



10. Loosen upper control arm ball joint nut (G), but do not remove. Use a ball joint breaker / remover tool to release ball joint taper.

11. Remove the strut from the vehicle by supporting the strut assembly.



NOTE

Using a marking device such as a paint pen, mark the left and right of the strut at the outboard position. This reference mark will be used for mounting inboard during lifted strut installation.



12. Place strut assembly into the spring compressor and ensure the spring is clamped securely.
Mark the top hat location to enable alignment during reassembly.
Compress the spring until the strut is loose and can move up and down, then carefully remove the upper strut nut.



WARNING

Take care as the coil is under extreme pressure. Wind out the spring compressor, slowly relieving the tension on the spring.



- 13.** Remove the strut top assembly from the strut.
- Remove the rubber isolator **(3)** from the strut top assembly **(1)**.
- Place the coil spacer **(2)** down over the strut top assembly **(1)**.
- Rotate the rubber isolator **(3)** 180°, then reinstall down over the coil spacer **(1)**.



- 14.** Reinstall the strut top onto the spring and place it on the spring compressor. Confirm it's 180° from the previous reference marks.
- Compress the spring to enable the strut to be reinstalled. Ensure the base of struts shaft is fully seated in the top hat.
- Install nut and Torque to 48Nm (35lb.ft) and slowly release tension on spring.



WARNING

Take special care when disassembling and reassembling the strut assemblies. Damage to the strut can occur if performed incorrectly.

- 15.** Install the top strut spacer onto the strut assembly and fasten with three (3) nuts supplied.
- Torque to 41Nm (30lb.ft).



- 16.** Remove the factory upper control arm and discard. Retain the factory pivot bolts (**G&B**).



NOTE

If fitted with auto adjusting headlights or CCD, retain ball stud on factory UCA.



FENDER BRACKET INSTALLATION

- 17.** Install the supplied upper control arm in the factory orientation (**B&G**).



NOTE

There is a left and right upper control arm. This can be identified by the arm length.

The longer arm will be positioned toward the front of the vehicle.



- 18.** Using the upper control arm clamp and M5 button head Allen bolt supplied, secure to hole on the front side of the control arm.

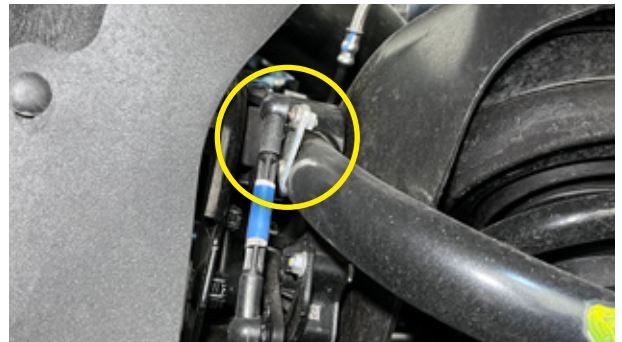
Torque Allen bolt to 6Nm (4lb.ft)



NOTE

If vehicle is fitted with auto adjusting headlights or CCD, install the front sensor ball stud into the upper control arm clamp using factory hardware.

Torque to 7Nm (5lb.ft).



- 19.** Using factory nuts, install the completed strut assembly into the frame 180° from the original orientation.

Make sure the offset of the top spacer is going in toward the frame, and the stamped word 'OUT' on the spacer is going toward the outside of the vehicle.

Do not tighten at this stage.



- 20.** Raise the knuckle high enough to install the ball joint into the knuckle.
Install using the nut supplied on the ball joint.
Do not tighten at this stage.



- 21.** Raise the lower control arm up and guide the lower strut studs into place.
Continue to raise the lower control arm up until you are able to install the factory lower strut nuts.
Torque nuts to 61Nm (45lb.ft).



- 22.** Install the alignment cam plate supplied over the pivot bolt, so pin fits in existing small hole in frame. Then install alignment eccentric cam nut by threading bolt into nut.
Install alignment cam nut toward the centre of the vehicle (most positive camber position of wheel) and tighten slightly.



- 23.** Tighten the top strut nuts.
Torque nut to 48Nm (35lb.ft)
Reinstall any loose wiring clips or lines disturbed during installation.
Torque ball joint nut (**G**) to 61Nm (45lb.ft).



- 24.** If vehicle is fitted with CCD option, complete the following:
Carefully route the CCD solenoid harness over the tie rod and reinstall the two (2) retaining clips the secure the CCD solenoid harness to the frame.
Reconnect the CCD solenoid harness connector plug.

- 25.** Reinstall the tie rod end into the knuckle using the factory hardware.

Torque nut to 82Nm (60lb.ft).



- 26.** Reinstall the sway bar end link into the knuckle using the factory hardware.

Torque nut to 61Nm (45lb.ft).



- 27.** Repeat **STEPS 4 TO 26** on the opposite side of the vehicle.

- 28.** With everything tightened and torqued to correct specifications, refit the front wheels and lower the vehicle.

At ride height, tighten the lower and upper control arm bolts.

Torque upper control arm bolts (**B**) to 163Nm (120lb.ft).

Torque lower arm bolts to 272Nm (200lb.ft).

Centre the steering wheel and turn the tie rod ends until the tyres are straight. If the steering wheel is not centred properly, the ABS/traction control lights may activate.

Turn the wheels from lock to lock and make sure the brake lines and ABS routing clears all suspension components adequately. Reposition if necessary.

Using the appropriate tool, grease the upper ball joint until the boot just starts to expand.

Do NOT over-grease. Over-greasing can cause premature wear.



REMOVAL PROCEDURES – REAR

- 29.** Chock the front wheels for safety and engage the parking brake.

Raise the rear of the vehicle and support with safety jack stands at each frame rail in front of the rear leaf spring hangers and remove the rear wheels.



- 30.** Remove the rear sensor bracket from the forward axle centre pin and retain factory mounting nut.



NOTE

This step is only required if vehicle is fitted with auto adjusting headlights or CCD.



- 31.** Slightly loosen, but do not remove the right-hand side u-bolts. Remove the left-hand side u-bolts completely and discard.

Lower the axle enough to remove the factory lift block, making sure brake and ABS lines are not overextended.



INSTALLATION PROCEDURES - REAR

- 32.** Install the lift block supplied on top of OE block with the arrow facing the front of the vehicle.

Raise the axle and the block up to the spring whilst aligning the centre pins.



- 33.** Install the u-bolts and nuts supplied. Nip up the nuts, but do not fully tighten at this stage.

Repeat the procedure on the opposite side.



- 34.** Reinstall the rear sensor bracket on the forward axle centre pin in the factory orientation.

Torque nut to 48Nm (35lb.ft).



NOTE

This step is only required if vehicle is fitted with auto adjusting headlights or CCD.

- 35.** Install the shock extension to the top of the factory shock using the M12 bolts, washers and nuts supplied.

Do not tighten at this stage.



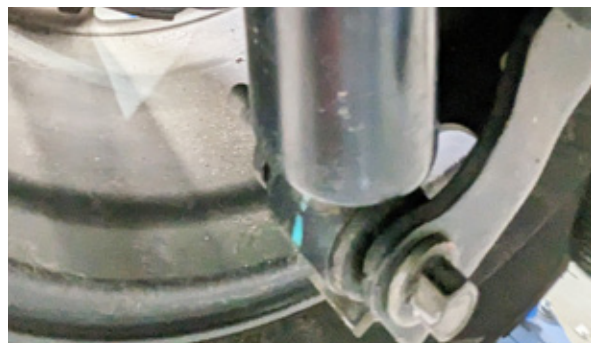
- 36.** Reinstall the shock into the frame using factory hardware. Ensure you are installing with the extension up.

Do not tighten at this stage.



- 37.** Refit the lower shock to the axle using factory hardware.

Do not tighten at this stage.



- 38.** Remove OE bump stops and dispose fastener. Place bump stop spacer between OE bump stop and chassis, reinstalling with longer fastener. Torque nut to 65Nm (48lb.ft).



- 39.** Prior to refitting the wheels, repeat all installation **STEPS 32 TO 38** on the opposite side of the vehicle.

- 40.** Refit the rear wheels and lower the vehicle to the ground.

Torque lug nuts to wheel manufacturer specs and jounce the vehicle to settle the suspension to the new ride height.

Torque U-bolts to 150Nm (110lb.ft) and all shock hardware to 102Nm (75lb.ft).

Reconnect the battery ground terminal. Start the vehicle and turn the steering wheel lock to lock to ensure clearance between tyre, body and suspension components.

Adjust as necessary.

Ensure mandatory wheel alignment is performed by a qualified technician and the alignment is set to the recommended specs below.



WHEEL ALIGNMENT



NOTE

Professional wheel alignment is required.

A strong understanding of wheel alignment procedure is required. ENTHUZE recommends wheel alignment be carried out by a trained alignment professional only.

ENTHUZE Steel Upper Control Arms will significantly change the wheel alignment settings by comparison to the OEM arm, for the purpose of correcting alignment after raising ride height.

Adjustments to Camber, Caster and Toe will be required.

Using the lower control arm, in most instances set alignment within the following range, or according to OEM specification.

Caster: +4.2° to +6.2°

Camber: +0.65° to -8.5°

Toe: +2.5mm to 0mm

Always set wheel alignment settings in relation to tyre wear for each individual vehicle.

ONCE INSTALLED...



SAFETY WARNING

FAILURE TO PERFORM POST INSTALL CHECKS MAY RESULT IN VEHICLE COMPONENT DAMAGE AND/OR PERSONAL INJURY OR DEATH TO THE DRIVER AND/OR OTHER PERSONS.

FINAL CHECKS AND ADJUSTMENTS

- Once the vehicle is lowered to the ground, check all rubber or urethane components to ensure correct torque.
- Torque lug nuts to manufacturers specifications.
- Move vehicle backward and forward a short distance to allow suspension components to adjust.
- Turn the front wheels completely left then right to ensure adequate tyre, wheel, brake line and ABS clearance.
- Test and inspect steering, brake and suspension components for tightness and proper operation.
- Inspect brake hoses and ABS lines for adequate slack at full extension and adjust as necessary.
- Recheck all hardware for correct torque values after 1000km (620miles)

VEHICLE HANDLING WARNING

Increasing the height of your vehicle raises the centre of gravity and can affect stability and control. Exercise caution when making turns and corrective steering.

Vehicles with larger tyres and wheels will handle differently than stock vehicles. Take time to familiarise yourself with the handling of your vehicle.

WHEEL ALIGNMENT / HEADLIGHT / SAFETY SYSTEMS ADJUSTMENT

It is necessary to have a proper and professional wheel alignment to factory specifications performed by a certified alignment technician. ENTHUZE also recommend an alignment after any off road driving.

In addition to an alignment, for your safety and the safety of others, ENTHUZE strongly recommend checking and adjusting the vehicle headlights for correct aim and alignment.

If the vehicle is fitted with active or passive safety/collision monitoring and/or avoidance systems, these should be professionally checked and adjusted to ensure correct aim and function.

