



**Trike Conversion Installation Manual**  
For  
**Honda VTX 1800 Motorcycles**  
ALL Models (Excluding C Model)



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***Champion Motorcycle Accessories International Inc.***

***Db a Champion Sidecars***

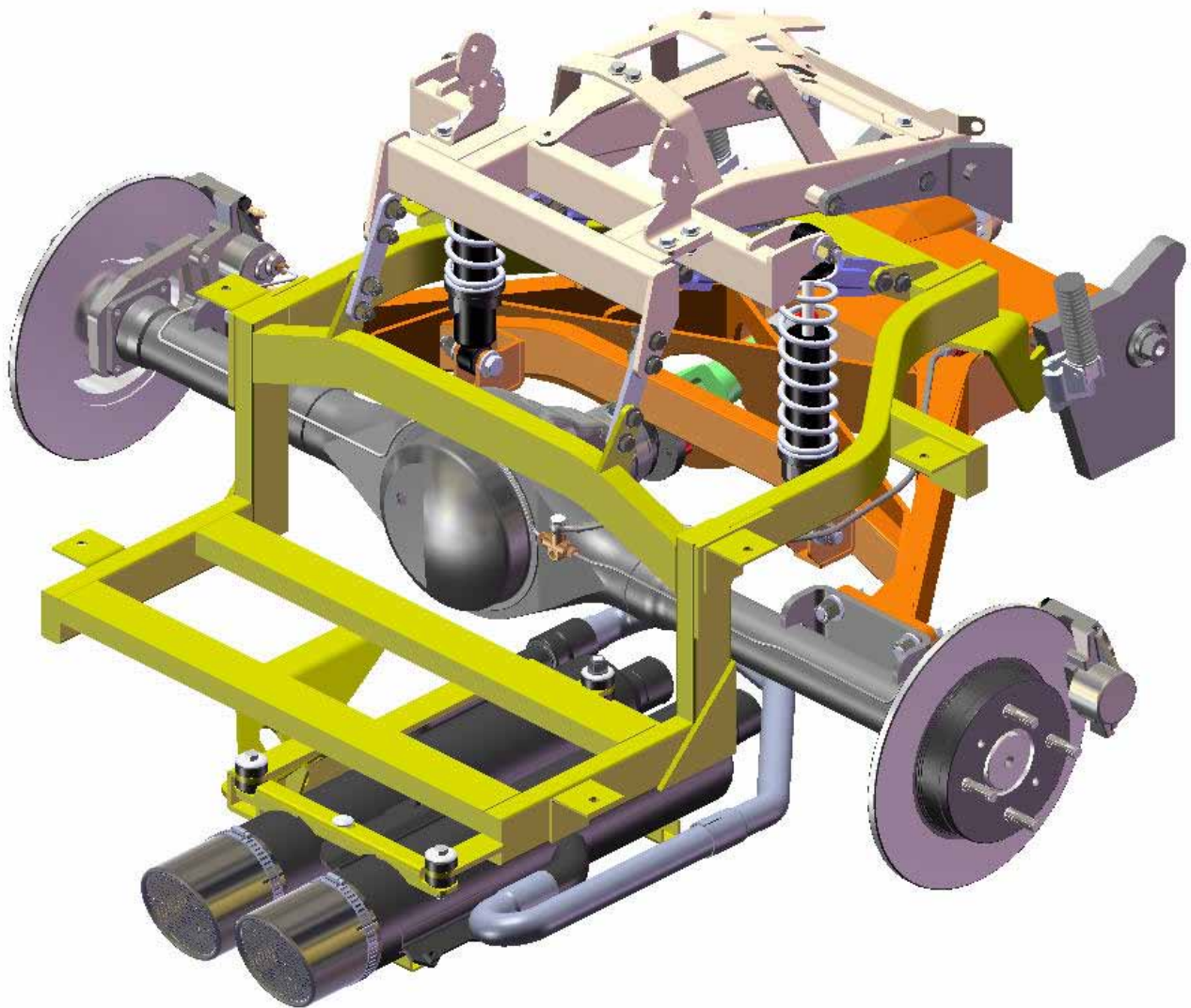
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# *Champion Trikes*

## Trike Conversion Kit for Honda VTX 1800 Motorcycles

ALL Models Excluding C Model





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## 1 General Information

The Champion Sidecars Trike Conversion Kit is designed with the utmost consideration to safety, quality and ease of installation. The kit comes complete with all necessary hardware and fasteners. However, it is assumed that the installer has advanced and/or professional skills in motorcycle servicing. **It is recommended that installer obtain an OEM service manual for the vehicle to which the Trike Kit is to be installed.**

### 1.1 Installation Information

The information contained in this Installation Manual is intended for use by technicians of advanced and/or professional skill levels. Attempting installation without the proper training, tools and equipment could cause injury to you or others. It could also damage the vehicle or cause an unsafe condition and can void the warranty.

### 1.2 For Your Safety

Because this manual is intended for technicians of advanced to professional skill levels, we do not provide warnings about many basic shop safety practices. If you have not received shop safety training or do not feel confident about your knowledge of safety practices, we recommend that you do not attempt to perform the procedures described in this manual.

Some of the most important general safety precautions are given below. Champion Sidecars cannot warn you of every conceivable hazard that can arise. Only you can decide whether or not you should perform a given task.

#### 1.2.1 Important Safety Precautions

- a. Make sure you have a clear understanding of all basic shop safety practices and that you wear appropriate clothing and use safety equipment. Be especially careful of the following:
  - Read all directions before you begin, and make sure you have the tools, the parts and the skills required to perform the tasks safely and completely.
  - Protect your eyes by using proper safety glasses, goggles or face shields any time you hammer, drill, grind, pry or work around pressurized air or liquids, and springs or other stored-energy components.
  - Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts.
  - Protect yourself and others when you have a vehicle up in the air. Anytime you lift a vehicle, either by hoist or a jack, make sure that it is securely supported.
- b. Make sure the engine is turned off and the battery disconnected before you begin work.
  - Carbon Monoxide poisoning from exhaust gases: Be sure there is adequate ventilation whenever you run the engine.
  - Burns from hot parts: Let the engine and exhaust system cool before working on those areas.



### 1.3 Specifications

Overall width	55.5 in.
Overall length	108.06 in.
Overall length w/ EZ-Steer	111.75 in.
Wheelbase	72.44 in.
Wheelbase w/ EZ-Steer	76.125 in.
Load capacity	640 lbs.
Brakes	High-performance rear disc
Tires	205/70R-15
Turning Radius	12.3 ft.
Wheels	Offset +35 mm 15x7JJ 4x4.5
Tire Pressure	20-25 psi

- Suspension:  
“Zero-Flex” swing arm and two new (replacement) Progressive coil-over shocks.
- Rear Differential:  
Champion Left Hand Drive Light Weight Rear Differential Assembly.
- Brakes:  
Original front plus 2 high performance disc brakes at rear.
- Storage Capacity:  
6.75 cubic feet – 3 full-face helmets and additional over wheel storage.

## 2 Removal of Original Parts

Secure and raise the motorcycle 9 to 10 inches using a quality motorcycle lift.

Remove the following from the vehicle. See OEM manual for detailed instructions. Items to be retained for re-installation after modification are noted.

- Rider’s Seat (to be re-installed without modification).
  - Passenger Seat and mounts (to be reinstalled without modification).
- NOTE:** OEM front and rear seat mounting bolts to be retained and reused.
- Left and right passenger foot rests and mounts (to be reinstalled with modification).
  - Mufflers (to be re-installed and relocated with minor modification).
  - Rear Fender (complete w/ sub frame and all attaching parts).
  - Swing Arm, Drive Shaft and Rear Wheel (complete w/ brake line and all attaching parts).

### Core Return

There are *NO* core return parts for this model.



### 3 Installation of Champion Trike Conversion Kit

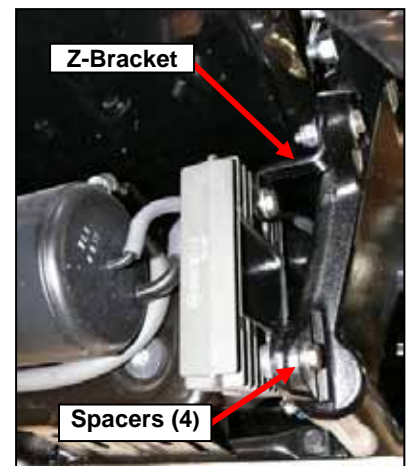
#### 3.1 Modify Frame and Passenger Footrests.

- Use 17/64" drill and drill through frame from inside out using passenger footrest mount holes as guide.
- Enlarge the passenger footrest mounting holes on the left and right side of the frame to 27/64".
- Enlarge the holes in the left and right passenger footrest mounting plates to 27/64".
- Clean area of all debris.

#### 3.2 Relocate Regulator

- Install supplied "Z" bracket to the regulator as shown using the supplied hardware.
- Attach regulator to frame using the supplied hardware.
- Tie hoses down to avoid contact with the swing arm.

Qty	Description
1	1/4-20x2 hex head bolt
1	1/4-20x1-1/4 hex head bolt
6	1/4-20 Nyloc nut
10	1/4- SAE flat washer 4 as spacers



#### 3.3 Hose Stay

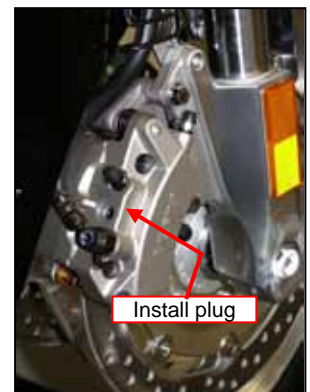
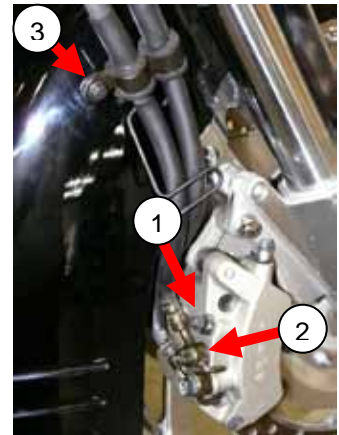
- For models that have a recover tank below the swing-arm, a holder has been included keep the hose connected to the water pump away from the champion swing-arm.
- Remove the hose from the top of the recovery tank.
- Push the water pump hose forward against transmission.
- Secure hose with supplied stay as shown using existing bolt. Ensure that hose is not being crushed. Bend stay if necessary.
- Reconnect hose to recovery tank.



### 3.4 Modify Front and Rear Brakes

Note: To avoid the need to bleed the front brakes, ensure to follow front brake system modification carefully. Do not open/remove any valves/lines not specified below.

- a. Attach vacuum bleeder to lower bleeder port (see arrow 1) of front brake caliper and remove fluid. Do at both right and left front brake calipers.
- b. Remove the upper banjo bolts (see arrow 2) securing the brake lines to the left and right front brake calipers.
- c. Open the clamps (see arrow 3) securing the brake lines to the front fender and remove the now loose lines from the clamps.
- d. Follow the lines up; remove the bolts securing the cross over hard line and blocks to the fork sliders.
- e. Disconnect the two hard lines from the block at the top of the right side line.
- f. Remove the bolt securing the block mentioned in step 3.4e to complete removal of the left and right brake lines disconnected in step 3.4b.
- g. Remove the hard line, previously connected to upper block / line removed in step 3.4f, from the rear brake master cylinder.
- h. Install the supplied two plugs (M10-1.25 Allen Set Screws) to the now vacant upper ports of the left and right front brake calipers.
- i. Bleed front brakes if necessary.
- j. Remove the hard line, previously connected to the rear brake line, from the rear brake pressure control valve located under the rider seat behind the fuel tank.
- k. Install the supplied 45" braided brake line to the rear master cylinder. Route line along lower right frame tube and secure with Zip-ties. Ensure that line turns upward **in front** of the swing arm pivots.





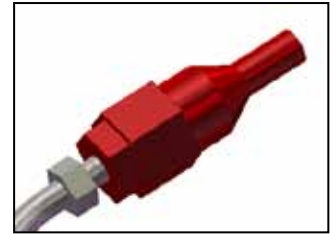
### 3.5 Install Swing Arm

- a. Install Champion swing arm. Ensure bearings and bushings are present and properly positioned in swing arm. Install with drive shaft tunnel to left hand side (LHS) of the vehicle using the supplied pivot bolts (shouldered bolt on the LHS).
- b. Torque LHS (shouldered bolt) to 80 lb.ft. and RHS side bolt to 25 lb.ft.
- c. Move swing arm up and down several times to seat bearings. Retighten ***RHS*** pivot bolt to 25 lb ft
- d. Install RHS OEM pivot lock nut. Hold pivot bolt while tightening lock nut with Honda special tool (Honda PN 07ZMA-MCAA101), to 72 lb ft (108 N-m). Actual torque is 80 lb.ft. However, with the special offset tool, the torque is 72 lb.ft.
- e. Support swing arm to not allow it to hang on its own weight until shock absorbers can be installed.



### 3.6 Install Rear Brake Line

- a. Install supplied residual valve to the previously installed braided brake line from the rear master cylinder.



- b. Install banjo end of 25" braided brake line to tee fitting on rear differential as shown using supplied hardware.

Qty	Description
1	Banjo bolt
2	Crush washer



- c. Route the brake line around to outboard side of the right shock absorber and forward along the right leg of the swing arm. Secure to swing arm leg with Zip-ties.
- d. Connect the rear brake line to line from the rear master cylinder.



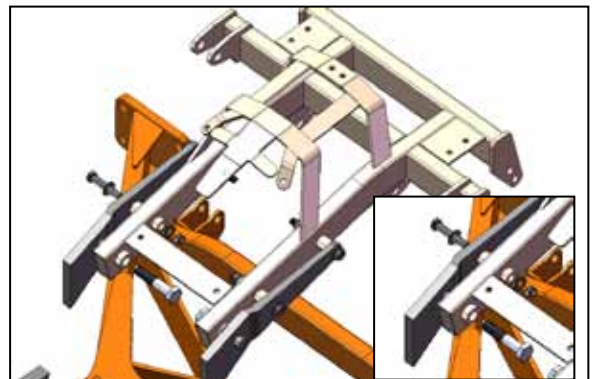
- e. Secure the lines to the mounting bolt on the top, right side of the swing arm, using an Adel clamp removed from the rear brake system and the supplied 1/4" flat washer and 1/4" NyLoc nut.
- f. Bleed rear brakes.



### 3.7 Install Seat / Shock Mount to Frame

- a. Install seat / shock mount to frame as shown using supplied hardware.

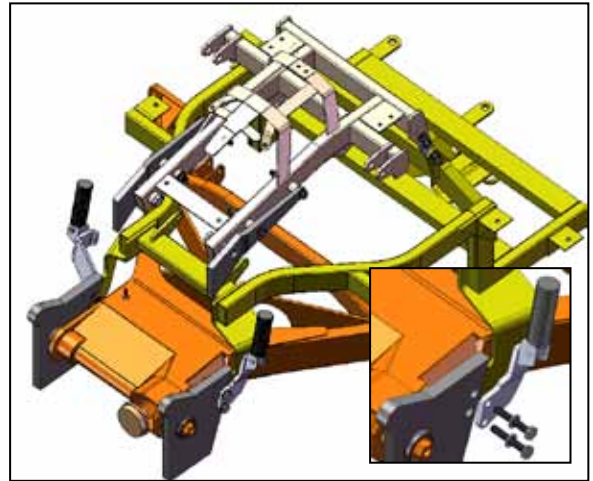
Qty	Description
2	14-1.5x65mm hex head bolt
2	M14 lock washer
4	3/8-24x3 1/2" hex head bolt
8	3/8" flat washer
4	3/8" NyLoc nut



### 3.8 Install Body Frame

- a. Install body frame and modified passenger footrests to frame as shown using supplied hardware.
- b. Do not torque bolts at this time. Top bolts will be removed later and foot pegs rotated to install body.

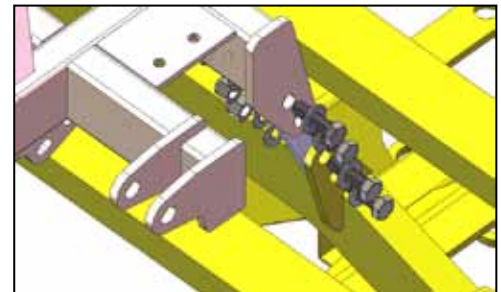
Qty	Description
4	10-1.25x55mm hex head bolt
8	10mm flat washer
4	10mm NyLoc nut



### 3.9 Install Body Frame Hanger Plates

- a. Install left and right hanger plates as shown using supplied hardware. Hanger plates fit inboard of body frame and shock mount. Body frame to hang down on the bottom of the slots. Torque to 45 lb.ft..

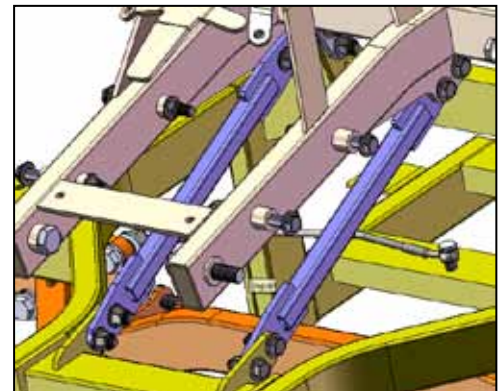
Qty	Description
8	3/8-24x1 1/4" hex head bolt
16	3/8" flat washer
8	3/8" NyLoc nut



### 3.10 Install Support Struts

- a. Install left and right support struts as shown using supplied hardware. Struts fit inboard of body frame and shock mount. Torque to 45 lb.ft.

Qty	Description
8	3/8-24x1 1/4" hex head bolt
16	3/8" flat washer
8	3/8" NyLoc nut



### 3.11 Install Shock Absorbers

- a. Install supplied Heim spacers (four each shock) to shock absorbers.
- b. Install shock absorbers as shown using supplied hardware. Install bolts from inboard side outward. This will help with replacing the shocks later without removing the body.



Qty	Description
4	1/2-20x 2 1/2" hex head bolt
8	1/2" flat washer
4	1/2-20 thin NyLoc nut

### 3.12 Install Drive Shaft

- a. Grease driveshaft spline with high pressure grease.
- b. Install drive shaft to vehicle output shaft through the swing arm tunnel.
- c. Ensure proper alignment and position of drive shaft yoke to the output shaft.

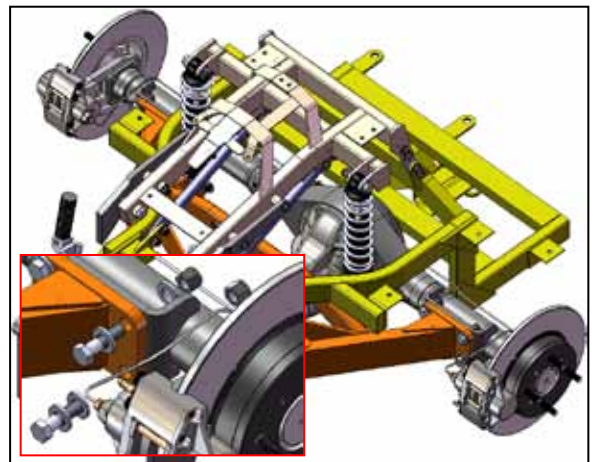


### 3.13 Install Rear End Assembly to Swing Arm

- a. Install rear end assembly to the swing arm as shown using supplied hardware.

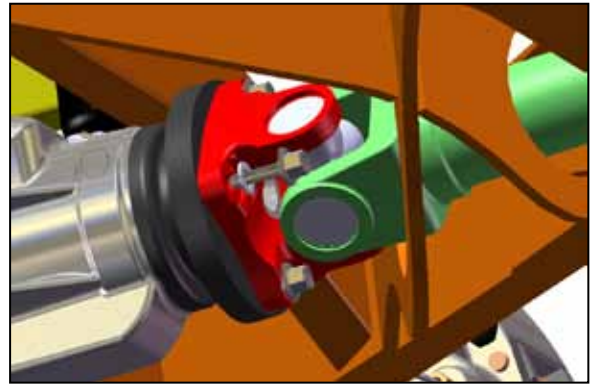
Note: The lower bolts on the left and right sides have the two flat washers on the bolt side to act as spacers.

Qty	Description
8	1/2-20x1 3/4" hex head bolt
16	1/2" flat washer
8	1/2-20 stover nut



### 3.14 Connect Drive Shaft to Rear Differential

- a. Secure the drive shaft to the rear differential using the hardware shipped on the input flange of the differential.



### 3.15 Modify OEM Mufflers

#### 3.15.1 R S and T models

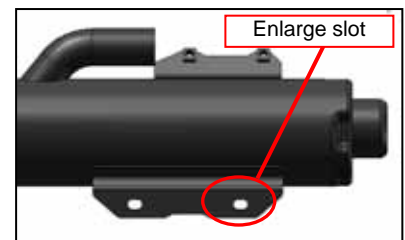
- a. Remove OEM chrome tips and heat / beauty covers from mufflers. Cut welds and/or unscrew bolts as required. Be careful not to cut into the muffler. (If you do – weld it closed).
- b. Clean cut areas for installation of supplied tips later.



- c. Cut off discharge tips as shown.



- d. Enlarge muffler tab rear slot to accommodate a 3/8" bolt.



#### 3.15.2 F and N Models

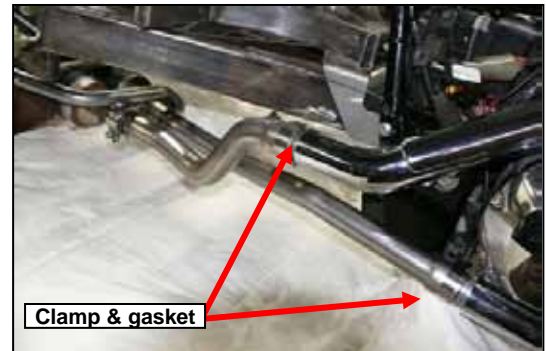
- a. Remove OEM chrome heat / beauty covers from mufflers. Cut welds and/or unscrew bolts as required. Be careful not to cut into the muffler. (If you do – weld it close).
- b. Either the OEM or the supplied muffler tips may be used. If it is desired to use the supplied tips, OEM tips must be removed.
- c. Enlarge muffler tab rear hole to accommodate a 3/8" bolt.

### 3.16 Install Header Pipes and Mufflers

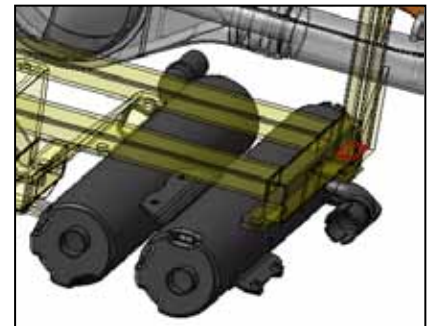
- a. Install upper, rear muffler bracket to rear tabs of body frame as shown using supplied hardware. Do not over tighten bolts to over compress rubber vibration rubbers (only two threads exposed).



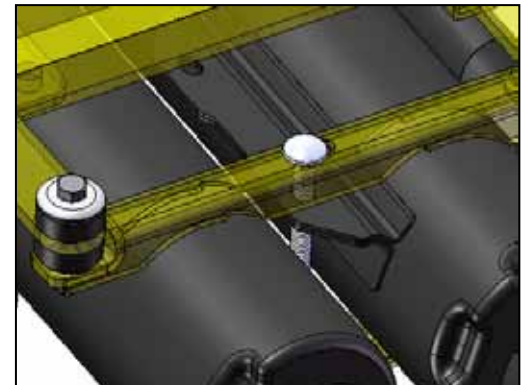
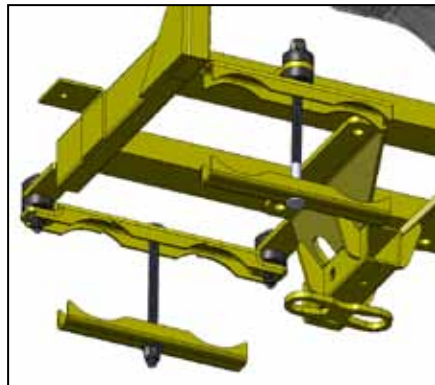
- b. Install muffler extensions to header pipes: Top header pipe (rear cylinder) with short supplied extension to Right Side Muffler position and Bottom header pipe (front cylinder) with long supplied extension to Left Side Muffler position using supplied clamps and gaskets.



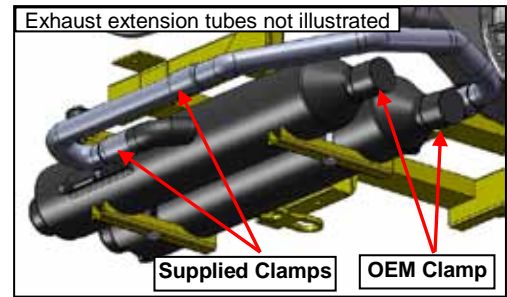
- c. Fit mufflers to exhausts extensions. Ensure the mufflers are oriented as shown.



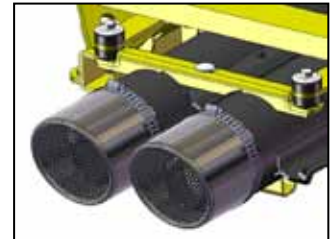
- d. Install bottom exhaust clamps as shown. (Mufflers not illustrated for clarity). Ensure rear carriage bolt is installed from top downward (body will not fit if reversed). Front carriage bolt is installed from bottom upward. DO NOT tighten clamping hardware at this time. Hardware to be tightened after cross-over tubes are installed.



- e. Install exhaust cross over and J-tube tubes to mufflers as shown with supplied and OEM clamps at either end of J-tube.
- f. Check for proper alignment of all tubes. Ensure cross over has at least 1/2" of clearance from differential and has adequate clearance over exhaust extension tubes.
- g. Tighten muffler clamping hardware and all clamps.



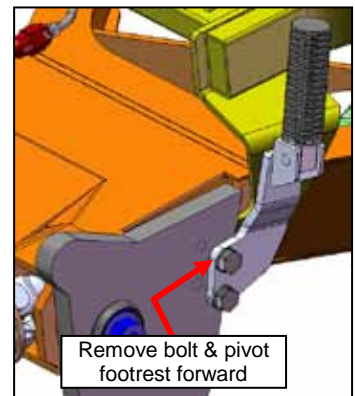
- h. Install supplied exhaust tips and clamps to mufflers with supplied clamps as shown. Ensure screens have at least 1/2" of clearance from ends of discharge tubes.



### 3.17 Install Body

Note: The installation/alignment of the body is an iterative process to find the correct position of body in relation to the wheels. The four holes already in the body are primarily for shipping purposes. These holes might line up with the pre-drilled body frame holes when the body is fitted. Follow instructions below to re-drill holes if required.

- a. Remove the upper bolt securing the left and right passenger footpegs and body frame to the vehicle frame. Rotate the footpegs forward to allow space for the body to pass.
- b. Carefully position body over seat / shock and body frames.
- c. Position the four mounting holes already in the body above the corresponding body frame tabs and test fit with the supplied bolts.
- d. Final alignment of the body will be done after the seat mounting brackets are installed in section 3.18



Qty	Description
6	3/8-24x1-1/4 hex head bolt
6	3/8x1-1/2 fender washer
6	3/8 SAE flat washer
6	3/8-24 Nyloc Nut

### 3.18 Connect Electrical Wires to the Motorcycle

- a. Connect the electrical wires from the pigtail attached to the body to the motorcycle main harness where the motorcycle rear fender harness was unplugged as follows:

	Champion harness	Motorcycle
Running lights	Blue & Brown	Black w/ Brown stripe
Brake lights	Red	Green w/ Yellow stripe
Turn signal, right	Green	Blue
Turn signal, left	Yellow	Orange w/ White stripe
Accessory	Blue	with Running Lights
Ground	Black (two)	Green (two)

- b. Remove flasher unit behind the fuse box under the right side side-cover and replace with the supplied flasher relay and adapter / extension. Secure with cable tie.





### 3.19 Install Seat Mounting Brackets

#### 3.19.1 Install Backrest mounts

- a. Install supplied backrest mounts using supplied hardware.
- b. These mounts are designed for the adjustable Honda OEM backrest PN 08F75-MCH-130

Qty	Description
4	5/16-18x1 hex head bolt
8	5/16 SAE flat washer
4	5/16-18 Nyloc nut



#### 3.19.2 R, S, N & T Models:

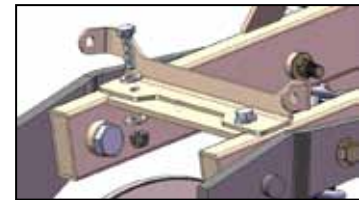
- a. Install previously removed OEM rear seat bracket with the supplied hardware

Qty	Description
2	5/16-18x1 hex head bolt
4	5/16 SAE flat washer
2	5/16-18 Nyloc nut



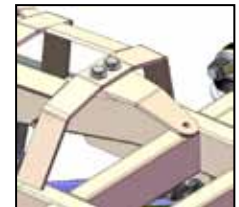
- b. Install rider seat bracket to seat / shock frame as shown with supplied hardware.

Qty	Description
2	5/16-18x1 hex head bolt
4	5/16 SAE flat washer
2	5/16-18 Nyloc nut



- c. Install rear seat mount tab to seat / shock frame as shown with supplied hardware.

Qty	Description
2	5/16-18x1 hex head bolt
2	5/16 SAE flat washer

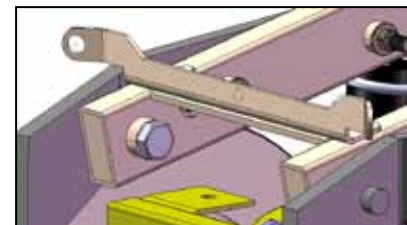


- d. Install Seat using the OEM bolts

#### 3.19.3 F Models:

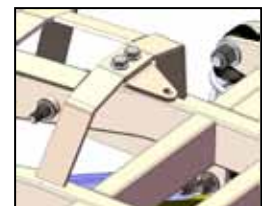
- a. Install rider seat bracket to seat / shock frame as shown with supplied hardware.

Qty	Description
2	5/16-18x1 hex head bolt
4	5/16 SAE flat washer
2	5/16-18 Nyloc nut



- b. Install rear seat mount tab to seat / shock frame as shown with supplied hardware.

Qty	Description
2	5/16-18x1 hex head bolt
2	5/16 SAE flat washer



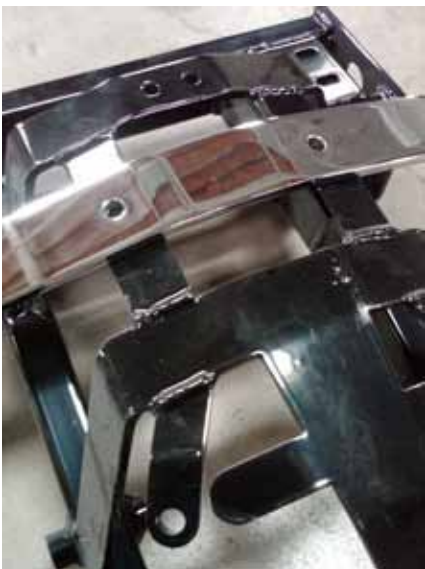
- c. Install Seat using the OEM bolts.

### 3.20 Align and secure body

- a. Temporarily install wheels to help with the alignment process.
- b. Align body with the wheels and the shock tower mount. Remove previously installed four bolts if the body needs more movement.
- c. When aligned, drill from below through frame tabs two center tab holes through body and bolt it down with supplied hardware. Body will now be locked in position.
- d. If required, drill from below the original four holes and bolt down with supplied hardware. It may be easier if the wheels are removed for this process

### 3.21 Install Grab Rail (Optional)

- a. Locate grab rail on mounting bracket and temporarily position the seat. Move grab rail to desired position.
- b. Use tape on the body to mark grab rail position. Drill two holes accordingly and assemble.



### 3.22 Install Wheels

- a. Install wheels to rear end using supplied lug nuts.
- b. Torque lug nuts to 75 lb.ft.



## 4 Fasteners

### VTX Hardware Kit

**PART NUMBER: HWK-L00-100 REV 1**

Qty	Part #	Description		
<b>A. HANGER BRACKETS/STRUTS</b>				
16	HW-375-052	3/8-24x1-1/4 hhcs gr8 yellow zinc		
32	HW-375-016	3/8 SAE flat washer clear zinc		
16	HW-375-011	3/8-24 nylock nut clear zinc		
<b>B. SWING ARM TO REAR END</b>				
8	HW-500-027	1/2-20x1-3/4 hhcs gr8 yellow zinc		
8	HW-500-008	1/2-20 stover nut		
20	HW-500-020	1/2 SAE flat washer clear zinc		
<b>C. SHOCK TOWER</b>				
2	HW-M14-004	M14x1.5x65 hhcs clear zinc		
2	HW-M14-005	M14 Lock Washer		
4	HW-375-083	3/8-24x3-1/2 hhcs gr8 yellow zinc		
8	HW-375-016	3/8 SAE flat washer clear zinc		
4	HW-375-011	3/8-24 nylock nut clear zinc		
10	HW-312-005	5/16-18x1 hhcs gr8 yellow zinc		
8	HW-312-009	5/16-18 nylock nut clear zinc		
18	HW-312-017	5/16 SAE flat washer clear zinc		
<b>D. SHOCKS</b>				
4	HW-500-006	1/2-20x2-1/4 hhcs gr8 yellow zinc		
8	HW-500-020	1/2 SAE flat washer clear zinc		
4	HW-500-034	1/2-20 nylock nut THIN ss		
<b>E. FRAME to MOTORCYCLE</b>			1300	1800
4	HW-M10-031	M10x1.25x55 hhcs gr8.8 (1800 only)		4
4	HW-M10-022	M10x1.25 nylock nut clear zinc (1800 only)		4
8	HW-M10-005	M10 flat washer clear zinc (1800 only)		8
2	HW-500-037	1/2-20x1-1/4 hhcs gr8 yellow zinc	2	
2	HW-500-021	1/2 lock washer clear zinc (1300 Only)	2	
<b>F. REGULATOR MODULE / CANISTER</b>			1300	1800
4	HW-250-005	1/4-20 nylock nut clear zinc	4	
10	HW-250-004	1/4 SAE flat washer clear zinc	8	2
1	HW-250-020	1/4-20x2 hhcs gr8 yellow zinc		1
2	HW-375-054	3/8-24x1-3/4 hhcs gr8 yellow zinc	2	
4	HW-375-016	3/8 SAE flat washer clear zinc	4	
2	HW-375-011	3/8-24 nylock nut clear zinc	2	
4	HW-250-022	1/4-20x1-1/4 hhcs gr8 yellow zinc	4	
<b>G. BODY TO FRAME</b>				
6	HW-375-011	3/8-24 nylock nut clear zinc		
6	HW-375-052	3/8-24x1-1/4 hhcs gr8 yellow zinc		
6	HW-375-007	3/8x1-1/2 fender washer clear zinc		
6	HW-375-016	3/8 SAE flat washer clear zinc		
<b>H. MUFFLER HANGERS</b>				
1	--	3/8-16x6-1/2 carriage bolt, SQ neck, zpl		
1	--	3/8-16x5-1/2 carriage bolt, SQ neck, zpl		
2	HW-375-016	3/8 sae flat washer clear zinc		
2	HW-375-012	3/8-16 nylock nut clear zinc		