



Trike Conversion Installation Manual
For
Honda VTX 1300 Motorcycles
All Models



Revision 3
June 2010

CAUTION : Failure to follow these instructions can lead to serious personal injury and/or property damage and may void the warranty

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Champion Trikes

Trike Conversion Kit for Honda VTX 1300 Motorcycles

All Models

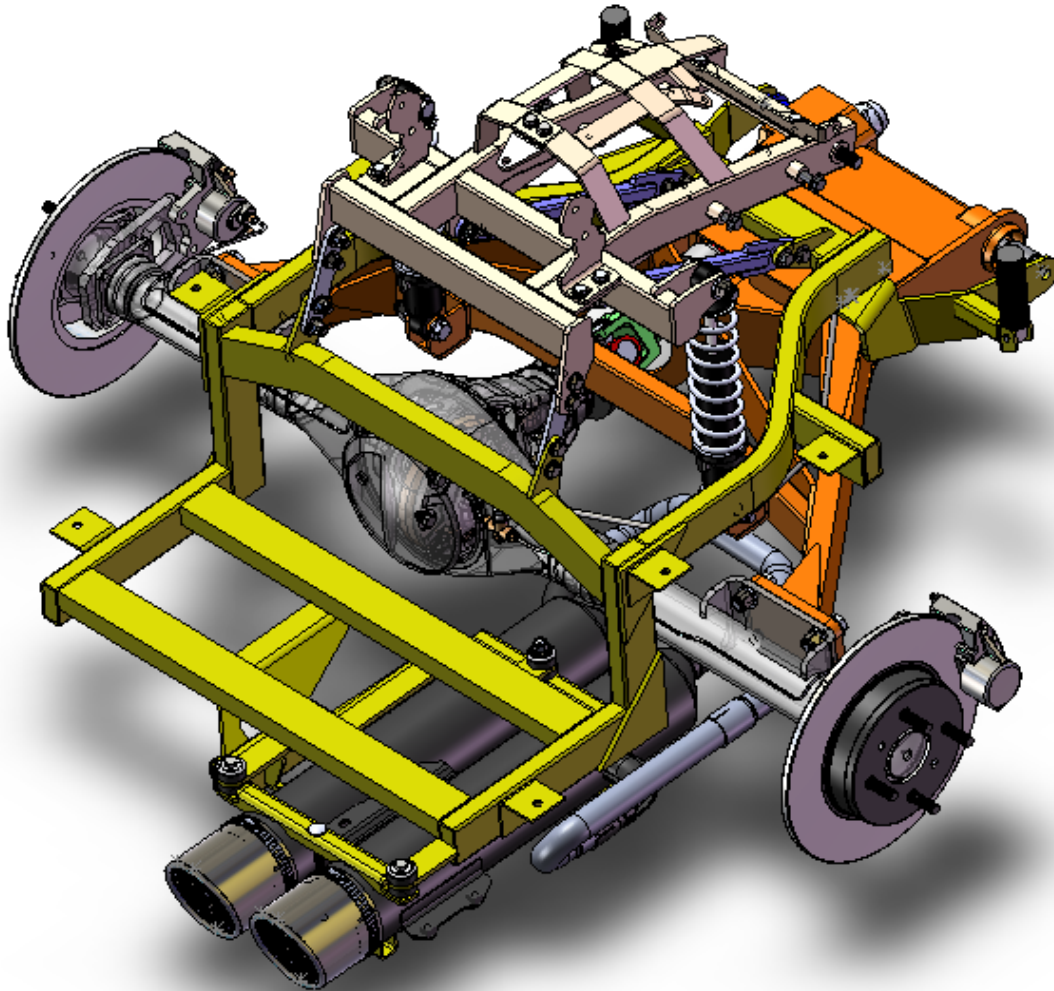




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1 General Information

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 the 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

	VTX 1300
Overall width	55.5 in.
Overall length	106.875 in.
Overall length w/ EZ-Steer	109.875 in
Wheelbase	71 in.
Wheelbase w/ EZ-Steer	74 in.
Load capacity	640 lbs.
Brakes	High-performance rear disc
Tires	205/70R-15
Wheels	Offset +35 mm 15x7JJ 4x4.5
Turning Radius	11.8 ft.
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 (to be reinstalled without modification)

NOTE: OEM front and rear seat mounting bolts and brackets to be retained and reused.

- Left and right passenger foot rests. (to be re-installed later).
- 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/ all attaching parts)
- Rear brake Line to hard line in front of the Swing Arm.

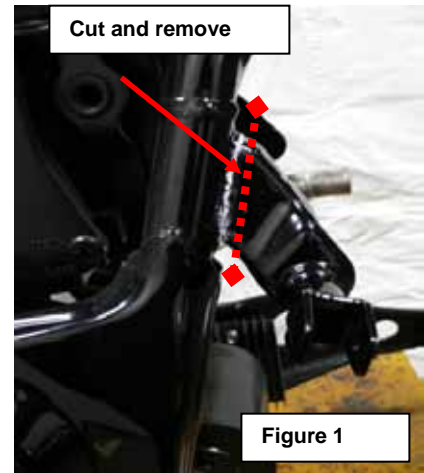
Core Return

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

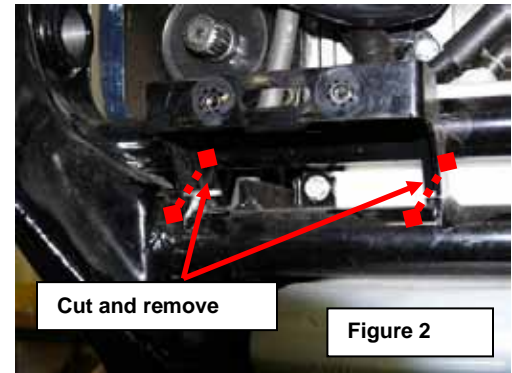
3 Installation of Champion Trike Conversion Kit

3.1 Modify Frame and Passenger Footrests.

- a. Cut and remove passenger foot rest mount from OEM frame on both sides (left hand side picture shown). Figure 1
- b. Clean cut frame and paint black.

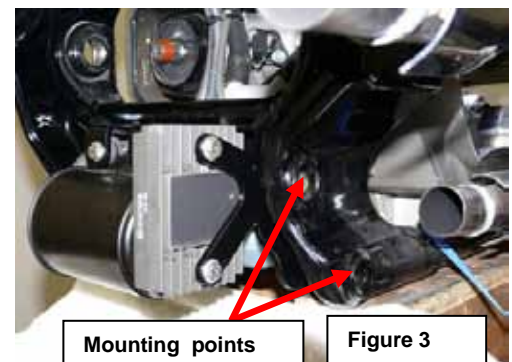


- c. Remove and secure Charcoal Canister.
- d. Cut and remove charcoal canister frame bracket. Figure 2
- e. Clean cut frame and paint black



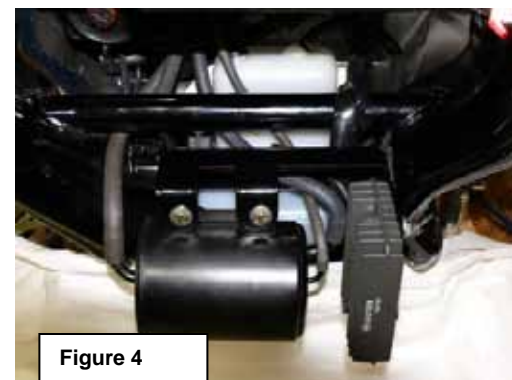
- f. Install supplied Canister/Regulator bracket with supplied hardware. Figure 3. Make sure the hoses/electrical wires are routed underneath the bracket as shown. Figure 4

Qty	Description
2	3/8-24x1-3/4 hex head bolt
4	3/8 SAE flat washers
2	3/8-24 Nyloc nuts



- g. Install Canister and Regulator with supplied hardware. Figure 4

Qty	Description
4	1/4-20x1-1/4 hex head bolt
8	1/4 SAE flat washers
4	1/4-20 Nyloc nuts



- h. Remove rubber brake hose and block from the hard brake line. Install 11" braided brake line to the hard brake line – Attach the "large" end of the braided line to the hard line. Figure 5
- i. Install supplied (red) residual valve to supplied 24.75" braided brake line. Figure 6 and attach to the 11" line Figure 5. Banjo end of braided brake line will connect later to the T-block on the Rear End.

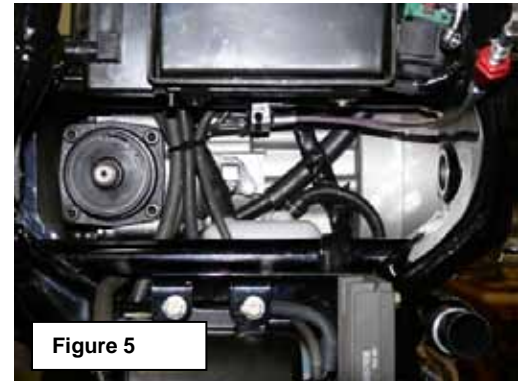


Figure 5

- j. Zip tie rubber hoses out of the way Figure 5

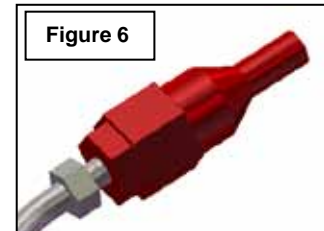


Figure 6

3.2 Install Swing Arm

- a. Install Champion swing arm (ensure bearings and bushings are present and properly positioned in swing arm and with drive shaft tunnel to left hand side (LHS)) to the vehicle using the supplied pivot bolts (shouldered bolt on the LHS Figure 7
- 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). Fig. 7 Actual torque is 80 lb.ft. but with the special offset tool the torque is 72 lb.ft.
- e. Support swing arm so as to not allow it to hang on its own weight until shock absorbers can be installed.

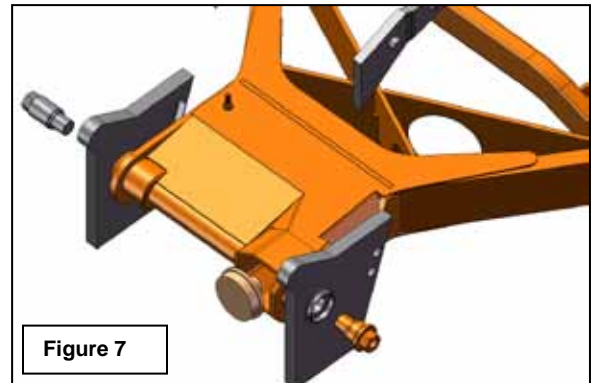


Figure 7

3.3 Install Seat / Shock Mount to Frame

- a. Install seat / shock mount to frame as shown using supplied hardware. Figure 8

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

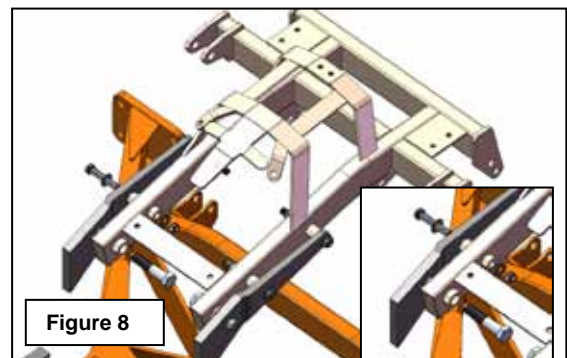


Figure 8

3.4 Install Body Frame

- a. Attached OEM passenger foot pegs previously removed to body frame. Figure 9.
- b. Install body frame to outside of swing arm pivot bolts as shown using supplied hardware. Figure 9.

Qty	Description
2	1/2-20x1-1/4" hex head bolt
2	1/2 lock washer

- c. Torque to 75 lb.ft.

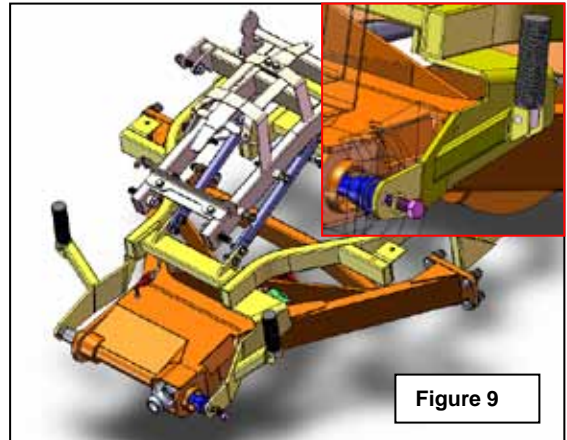


Figure 9

3.5 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. Figure 10

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

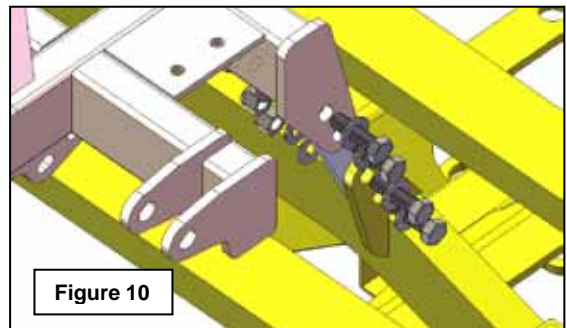


Figure 10

3.6 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. Figures 11 and 11a

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

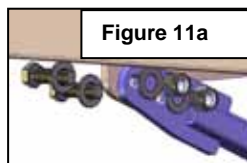


Figure 11a

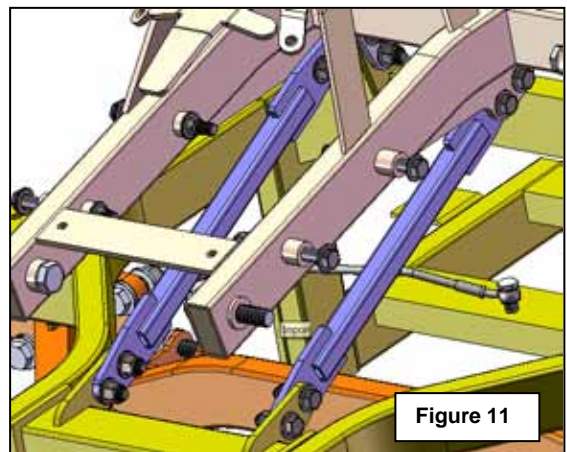


Figure 11

3.7 Install Shock Absorbers

- a. Install supplied Heim spacers (four each shock) to shock absorbers.
- b. Install shock absorbers as shown using supplied hardware. Bolt heads to be on inside facing out – This will help with replacing the shocks later without removing the body. Figure 12

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



Figure 12

3.8 Install Drive Shaft

- a. Grease driveshaft spline with high pressure grease.
- b. Install drive shaft to vehicle output shaft through the swing arm tunnel. Figure 13
- c. Ensure proper alignment and position of drive shaft yoke to the output shaft.

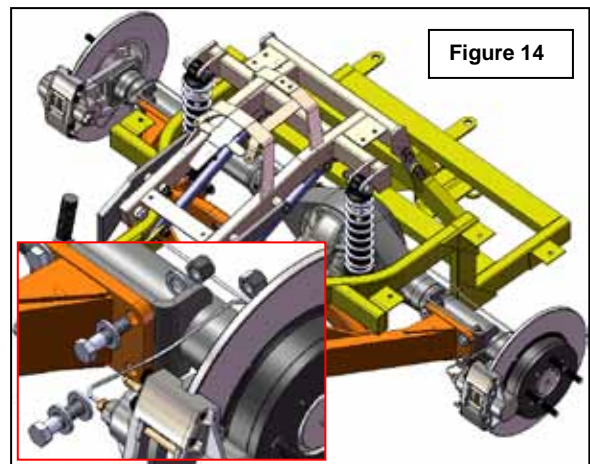


3.9 Install Rear End Assembly to Swing Arm

- a. Install rear end assembly to the swing arm as shown using supplied hardware. Figure 14

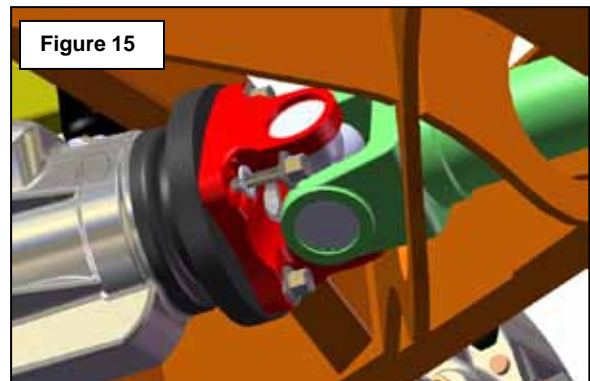
Note: The lower bolts on the left and right sides have an additional flat washer on the head side (two total) to act as a spacer

Qty	Description
8	1/2-20x1 3/4" hex head bolt
20	1/2" flat washer
8	1/2-20 Stover nuts



3.10 Connect Drive Shaft to Rear Differential

- a. Secure the drive shaft to the rear differential using the hardware on the input flange of the differential. Figure 15



3.11 Install Rear Brake Line

- a. Route the 24.75" braided brake line around to outboard side of the right shock absorber and backward along the right leg of the swing arm. Figure 16
- b. To get the correct orientation of the banjo end of the 24.75" line, it may be necessary to temporarily loosen the other end at the red residual valve.
- c. Install banjo end of 24.75" braided brake line to tee fitting on rear differential as shown using supplied hardware. Figure 17. Retighten line at the residual valve.

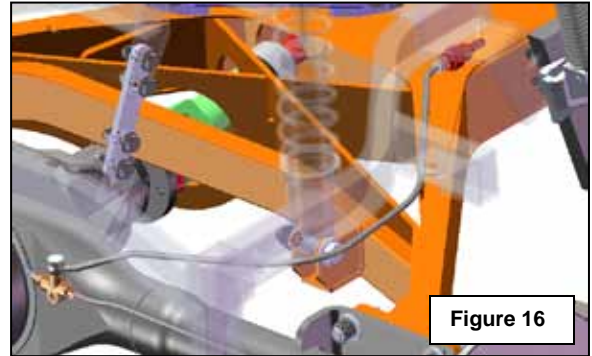


Figure 16

Qty	Description
1	Banjo bolt
2	Crush washer

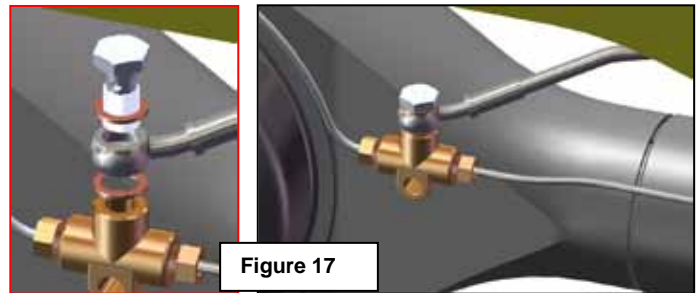


Figure 17

- d. Secure the red residual valve to the mounting bolt on the top, right side of the swing arm, using an Adel clamp and rubber removed from the rear OE brake lines and the supplied 1/4" flat washer and 1/4" NyLoc nut. Figure 18
- e. Bleed rear brakes.



Figure 18

3.12 Modify OEM Mufflers

- 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 close).
- b. Clean cut areas for installation of supplied tips later. Figure 19.

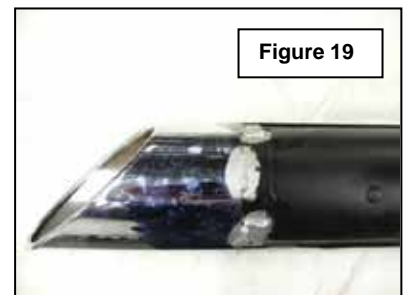


Figure 19

- c. Cut off discharge tips as shown. Figure 20



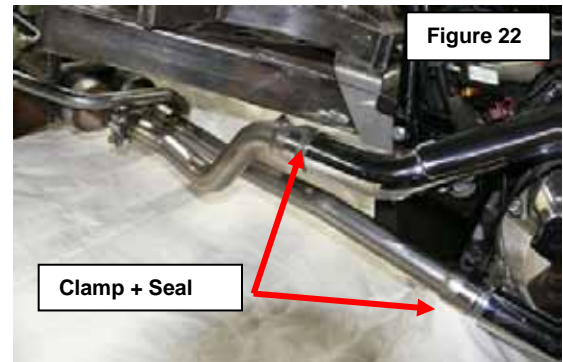
Figure 20

3.13 Install Header Pipes and Mufflers

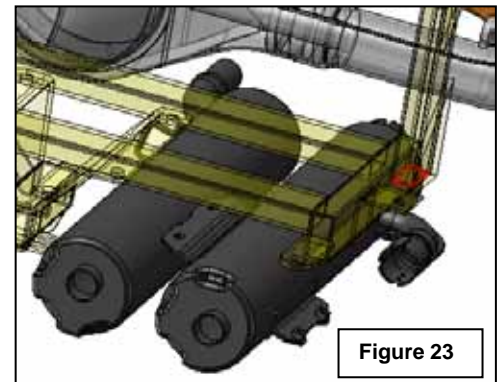
- a. Install upper, rear muffler bracket to rear tabs of body frame as shown using supplied hardware. Do not over tighten bolts to over compress rubber vibration rubbers- (2 threads out of nut). Figure 21



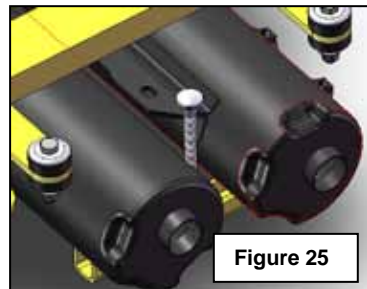
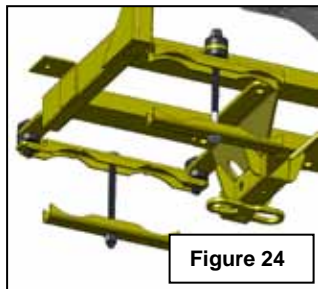
- b. Install muffler extensions to header pipes: Top header pipe (rear Piston) with short supplied extension to Right Side Muffler position and Bottom header pipe (Front Piston) with long supplied extension to Left Side Muffler position using supplied clamps and gaskets. Figure 22



- c. Fit mufflers to exhausts extensions – make sure the mufflers are orientated as shown. Figure 23



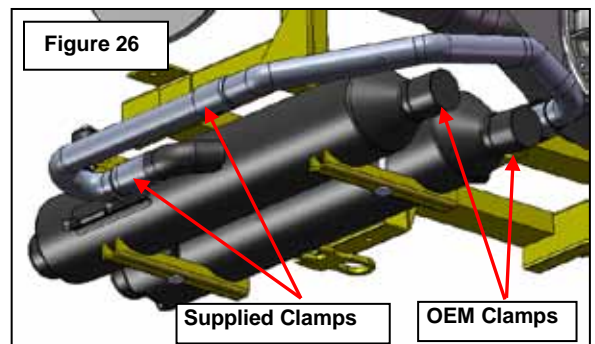
- d. Install bottom exhaust clamps as shown. Figure 24. DO NOT tighten yet- wait until cross-over tubes are installed. (Mufflers not illustrated for clarity) Make sure rear carriage bolt head is on top (body will not fit if reversed).



- e. Ensure RHS muffler tab edge is touching the rear hanger bolt. Figure 25. (Upper rear bracket not shown for clarity) LHS Muffler is in line with RHS muffler.



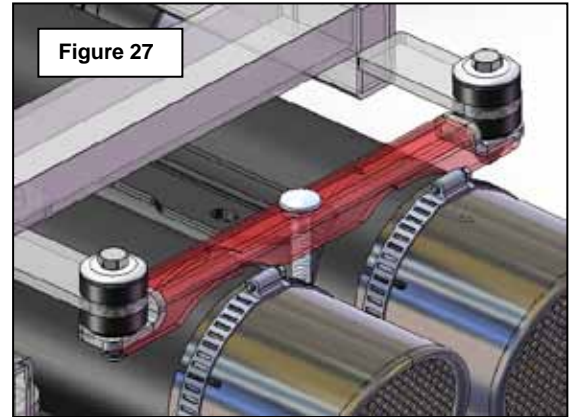
- f. Install exhaust cross over and J-tube tubes to mufflers as shown with supplied and OEM clamps at either end of J-tube. Figure 26



- g. 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.

- h. Tighten exhaust supporting brackets. Tighten all clamps.

- i. **For 2007 and prior:** 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. Figure 27



3.14 Install Body

- a. Carefully position body over seat / shock and body frames.

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.

- b. Position the four mounting holes already in the body above the corresponding body frame tabs and test fit with the supplied bolts.
- c. Final alignment of the body will be done after the seat mounting brackets are installed in next section.

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

3.15 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	Brown	Brown
Brake lights	Red	Green/Yellow
Turn signal, right	Green	Blue
Turn signal, left	Yellow	Orange
Accessory	Blue	Brown
Ground	Black (two)	Green (two)

- b. Remove flasher unit behind the fuse box under the right side side-cover and replace/plug in with the supplied flasher relay. Tie down with cable tie.

3.16 Install Seat Mounting Brackets

3.16.1 Install Backrest mounts

- a. Install supplied backrest mounts using supplied hardware.
Figure 28
- 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

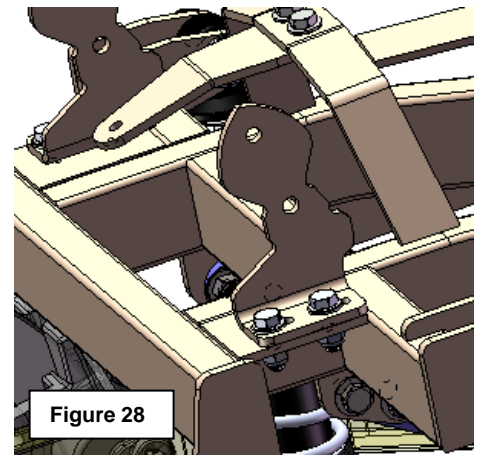


Figure 28

3.16.2 R 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

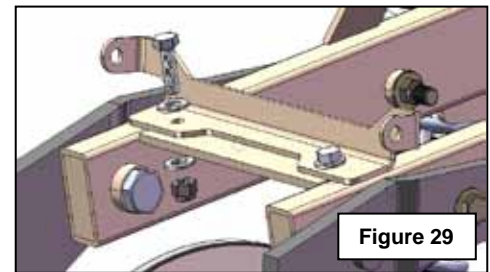


Figure 29

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

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

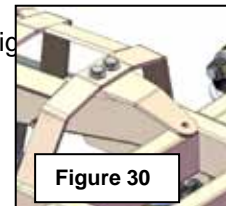


Figure 30

- c. Install rear seat mount tab to seat / shock frame as shown with supplied hardware. Figure 30

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

- d. Install Seat using the OEM bolts

3.16.3 C Models:

- a. Install rider seat bracket to seat / shock frame as shown with supplied
hardware. Figure 31

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

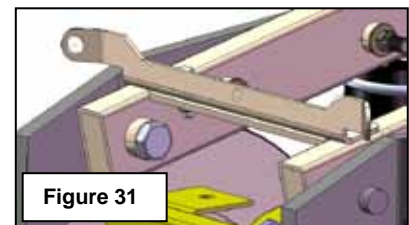


Figure 31

- b. Install rear seat mount tab to seat / shock frame as shown with supplied
hardware. Figure 32

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

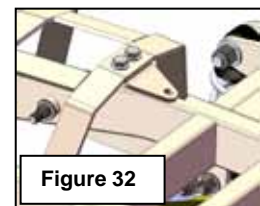


Figure 32

- c. Install Seat using the OEM bolts

3.17 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

3.18 Install Grab Rail (Optional)

- b. Locate grab rail on mounting bracket and temporarily position the seat. Move grab rail to desired position. Figure 33
- c. Use tape on the body to mark grab rail position. Drill two holes accordingly and assemble. Figure 34

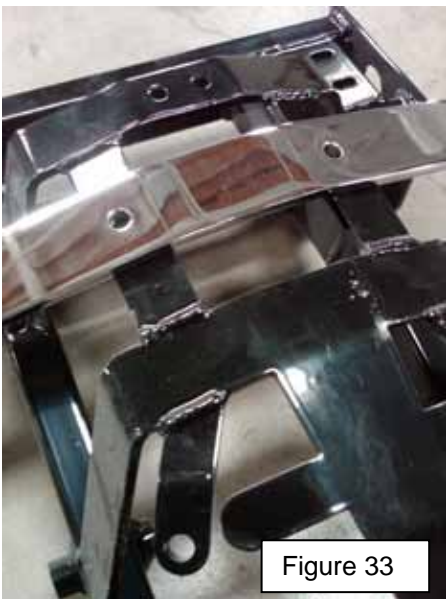


Figure 33



Figure 34

3.19 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		
A. HANGER BRACKETS/STRUTS				
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. SWING ARM TO REAR END				
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		
C. SHOCK TOWER				
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		
D. SHOCKS				
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		
E. FRAME to MOTORCYCLE				
			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	
F. REGULATOR MODULE / CANISTER				
			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	
G. BODY TO FRAME				
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		
H. MUFFLER HANGERS				
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		